ADVANCED AND EVER ADVANCING MITSUBISHI ELECTRIC

MITSUBISHI ELECTRIC

SPLIT-TYPE,HEAT PUMP AIR CONDITIONERS

1999

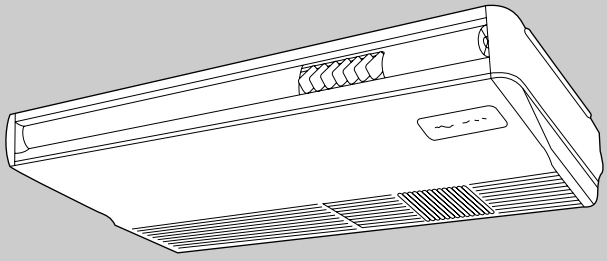
No. OC191

TECHNICAL & SERVICE MANUAL

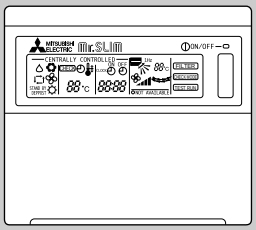
Series PCH

Indoor unit [Models names]	[Service Ref.]
PCH-2GKA	PCH-2GKA-E
PCH-2.5GKA	PCH-2.5GKA-E
PCH-3GKA	PCH-3GKA-E
PCH-4GKSA	PCH-4GKSA-E
PCH-5GKSA	PCH-5GKSA-E
PCH-6GKSA	PCH-6GKSA-E

This manual does not cover the following outdoor units. When serving them, please refer to the service manual No.OC150 and this manual in a set.
[Service Ref.]
PUH-2VKA2.UK
PUH-2.5VKA2.UK
PUH-3VKA2.UK
PUH-3YKA2.UK
PUH-4YKSA2.UK
PUH-5YKSA2.UK
PUH-6YKSA2.UK



INDOOR UNIT



REMOTE CONTROLLER

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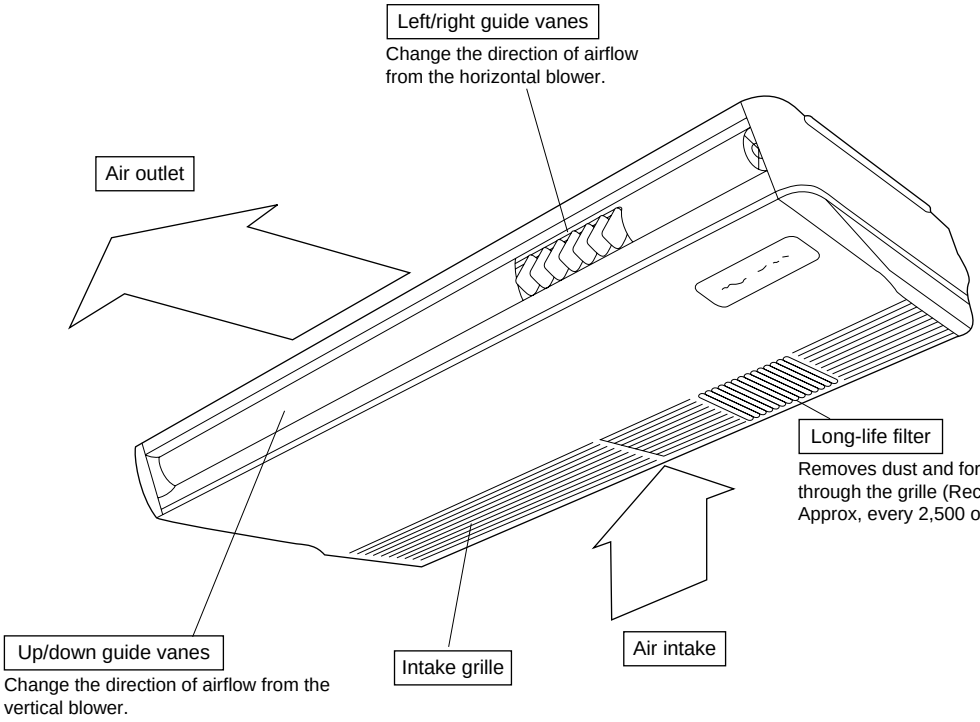
The Slim Line.
From Mitsubishi Electric.

Mr.SLIM™

1 PART NAMES AND FUNCTION

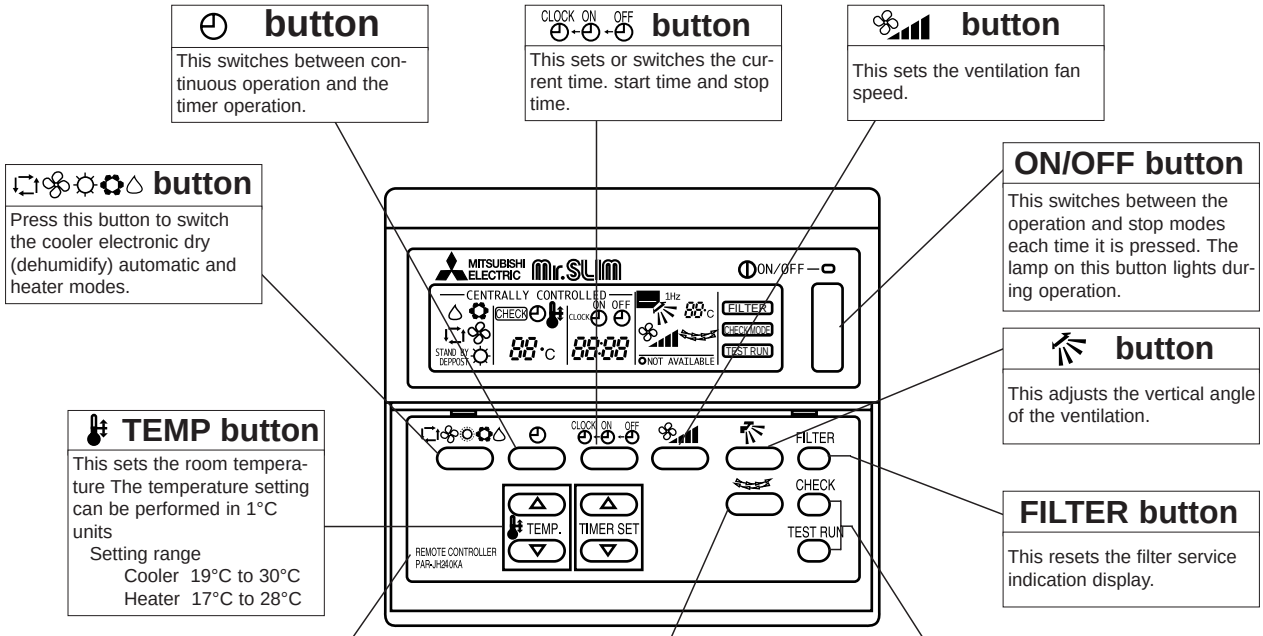
● Indoor (Main) Unit


Left/right guide vanes
Change the direction of airflow from the horizontal blower.
Air outlet
Long-life filter
Removes dust and foreign matter from air coming in through the grille (Recommended cleaning interval : Approx, every 2,500 operating hours)
Up/down guide vanes
Change the direction of airflow from the vertical blower.
Intake grille
Air intake

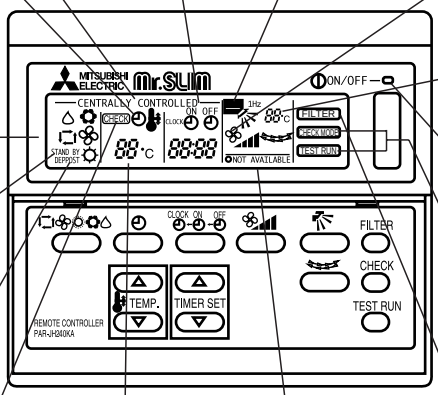
REMOTE CONTROLLER

● Operation buttons

● Once the operation of the unit is set, subsequent operation can only be performed by pressing the ON/OFF button repeatedly.


button
This switches between continuous operation and the timer operation.
CLOCK ON OFF button
This sets or switches the current time. start time and stop time.
button
This sets the ventilation fan speed.
button
Press this button to switch the cooler electronic dry (dehumidify) automatic and heater modes.
ON/OFF button
This switches between the operation and stop modes each time it is pressed. The lamp on this button lights during operation.
button
This adjusts the vertical angle of the ventilation.
TEMP button
This sets the room temperature The temperature setting can be performed in 1°C units
Setting range
Cooler 19°C to 30°C
Heater 17°C to 28°C
FILTER button
This resets the filter service indication display.
This model name of the remote controller is indicated.
button
This switches the horizontal fan motion ON and OFF.
(This button dose not operate in this model)
CHECK-TEST RUN button
Only press this button to perform an inspection check or test operation. Do not use it for normal operation.
MITSUBISHI ELECTRIC
Mr.SLIM
ON/OFF
CENTRALLY CONTROLLED
FILTER
CHECK/MODE
TEST RUN
NOT AVAILABLE
TEMP.
TIMER SET
CHECK
REMOTE CONTROLLER
PAR-JH240KA

● Display



CENTRALLY CONTROLLED display

This indicates when the unit is controlled by optional features such as central control type remote controller.

CLOCK ON OFF display

The current time , start time and stop time can be displayed in ten second intervals by pressing the time switch button. The start time or stop time is always displayed during the timer operation.

display

This displays the air direction.

display

This indicates when the continuous operation and time operation modes are set.
It also display the time for the timer operation at the same time as when it is set.

display

The selected fan speed is displayed.

88°C display

The temperature of the suction air is displayed during operation. The display range is 8° to 39°C. The display flashes 8°C when the actual temperature is less than 8° and flashes 39°C when the actual temperature is greater than 39°C.

OPERATION MODE display

This indicates the operation mode.

Operation lamp

This lamp lights during operation, goes off when the unit stops and flashes when a malfunction occurs.

STANDBY display

This indicates when the standby mode is set from the time the sleep operation starts until the heating air is discharged.

CHECK MODE / TEST RUN display

This display lights in the check mode or when a test operation is performed.

DEFROST display

This indicates when the defrost operation is performed.

FILTER display

This lamp lights when the filter need to be cleaned.

CHECK display

This indicates when a malfunction has occurred in the unit which should be checked.

88°C display

This displays the selected setting temperature.

⊙display

This lamp lights when electricity is supplied to the unit.

Caution

- Only the ⊙ display lights when the unit is stopped and power supplied to the unit.
- When power is turned ON for the first time the (CENTRAL CTRL) display appears to go off momentarily but this is not a malfunction.
- When the central control remote control unit, which is sold separately, is used the ON-OFF button, button and TEMP button do not operate.
- "NOT AVAILABLE" is displayed when the button are pressed.This indicates that this room unit is not equipped with the fan direction adjustment function and the louver function.

2 SPECIFICATIONS

Rating Conditions (JIS B8616)

Item \ Service Ref.				PCH-2GKA-E		PCH-2.5GKA-E	
Function				Cooling	Heating	Cooling	Heating
Capacity			Btu/h	18,400	21,200	23,900	24,200
			W	5,400	6,200	7,000	7,100
Total input			kW	2.30	2.32	2.59	2.36
INDOOR UNIT	**Service Ref.**			**PCH-2GKA-E**		**PCH-2.5GKA-E**	
	Power supply			Single phase. 50Hz. 220-240V			
		Input	kW	0.10	0.10	0.13	0.13
		Running current	A	0.43	0.43	0.55	0.55
		Starting current	A	1.20	1.20	1.27	1.27
	External finish			Munsell 0.70Y 8.59 / 0.97			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Sirocco (direct) x 2		Sirocco (direct) x 3	
		Fan motor output	kW	0.054		0.07	
		Airflow(Low-High)	m³/min <CFM>	10 -13 (353-459)		14 -18 (494-635)	
		External static pressure	Pa(mmAq)	0 (direct blow)			
	Booster heater		kW	—		—	
	Operation control & Thermostat			Remote controller & built-in			
	Noise level(Low-High)		dB	37 - 42		37 - 43	
	Unit drain pipe I.D.		mm(in.)	26(1)			
	Dimensions	W	mm(in.)	1,000 (39-3/8)		1,310 (51-9/16)	
		D	mm(in.)	680 (26-3/4)			
		H	mm(in.)	210 (8-1/4)			
	Weight		kg(lbs)	27 (60)		34 (75)	
OUTDOOR UNIT	**Service Ref.**			**PUH-2VKA2.UK**		**PUH-2.5VKA2.UK**	
	Power supply			Single phase. 50Hz. 220-240V			
		Input	kW	2.20	2.22	2.46	2.23
		Running current	A	9.86	9.95	10.68	9.78
		Starting current	A	45	45	52	52
	External finish			Munsell 5Y 7/1			
	Refrigerant control			Capillary tube			
	Compressor			Hermetic			
		Model		NH38VMDT		NH41VMDT	
		Motor output	kW	1.7		2.0	
		Starter type		Line start			
		Protection devices		Internal thermostat. High-pressure switch			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Propeller (direct)X1			
		Fan motor output	kW	0.065		0.085	
		Airflow	m³/min <CFM>	45 (1,590)		50 (1,764)	
	Defrost method			Reverse cycle			
	Crankcase heater		W	38			
	Noise level		dB	49		52	
	Dimensions	W	mm(in.)	870 (34-1/4)			
		D	mm(in.)	295 + 24 (11-5/8 add 1)			
		H	mm(in.)	650 (25-5/8)		850 (33-7/16)	
	Weight		kg(lbs)	64 (141)		68 (150)	
REFRIGERANT PIPING	Refrigerant			R-22			
		Charge	kg(lbs)	2.2 (4.9)		2.8 (6.2)	
		Oil <Model>	L	1.2 <MS-32>			
	Pipe size O.D.	Liquid	mm(in.)	9.52 (3/8)			
		Gas	mm(in.)	15.88 (5/8)			
	Connection method	Indoor side		Flared			
		Outdoor side		Flared			
	Between the indoor & outdoor unit	Height difference		Max. 40m		Max. 50m	
		Piping length		Max. 40m		Max. 50m	

Notes1. Rating Conditions (JIS B8616)

Cooling : Indoor : 27℃(80°F)DB. 19℃(66°F)WB
Outdoor : 35℃(95°F)DB. 24℃(75°F)WB
Heating : Indoor : 20℃(68°F)DB.
Outdoor : 7℃(45°F)DB. 6℃(43°F)WB
Refrigerant piping length (one way) : 5m(16ft)

3. Above data based on indicated voltage
Indoor Unit 1 phase 240V 50Hz
Outdoor Unit 1 phase 240V 50Hz

2. Guaranteed operating range

		Indoor	Outdoor
Cooling	Upper limit	35℃ DB, 22.5℃ WB	46℃ DB
	Lower limit	21℃ DB, 15.5℃ WB	-5℃ DB
Heating	Upper limit	27℃ DB	21℃ DB, 15.5℃ WB
	Lower limit	20℃ DB	-8.5℃ DB, -9.5℃ WB

Rating Conditions (JIS B8616)

	Item / Service Ref.			PCH-3GKA-E		PCH-4GKSA-E	
	Function			Cooling	Heating	Cooling	Heating
	Capacity		Btu/h	25,600	29,000	34,100	35,700
			W	7,500	8,500	10,000	10,450
	Total input		kW	3.28	3.07	3.36	3.35
INDOOR UNIT	**Service Ref.**			**PCH-3GKA-E**		**PCH-4GKSA-E**	
	Power supply			Single phase. 50Hz. 220-240V			
		Input	kW	0.13	0.13	0.16	0.16
		Running current	A	0.55	0.55	0.70	0.70
		Starting current	A	1.27	1.27	1.48	1.48
	External finish			Munsell 0.70Y 8.59 / 0.97			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Sirocco (direct) × 3			
		Fan motor output	kW	0.07		0.09	
		Airflow(Low-High)	m³/min <CFM>	14 -18 (494-635)		20 -25 (706-883)	
		External static pressure	Pa(mmAq)	0 (direct blow)			
	Booster heater		kW	—		—	
	Operation control & Thermostat			Remote controller & built-in			
	Noise level(Low-High)		dB	37 - 43		40 - 45	
	Unit drain pipe I.D.		mm(in.)	26 (1)			
	Dimensions	W	mm(in.)	1,310 (51-9/16)			
		D	mm(in.)	680 (26-3/4)			
		H	mm(in.)	210 (8-1/4)		270 (10-5/8)	
	Weight		kg(lbs)	34 (75)		37 (82)	
OUTDOOR UNIT	**Service Ref.**			**PUH-3VKA2.UK / PUH-3YKA2.UK**		**PUH-4YKSA2.UK**	
	Power supply			VKA...1phase, 50Hz, 220-240V / YK(S)A...3phase, 50Hz, 380- 415V, 4wires			
		Input	kW	3.15	2.94	3.20	3.19
		Running current	A	13.82 / 5.16	12.89 / 4.81	5.24	5.22
		Starting current	A	58 / 37	58 / 37	40	40
	External finish			Munsell 5Y 7/1			
	Refrigerant control			Capillary tube			
	Compressor			Hermetic			
		Model		NH52VNDT(PUH-3VKA),NH52YDAT(PUH-3YKA)		NH56YDAT	
		Motor output	kW	2.2 / 2.4		2.7	
		Starter type		Line start			
		Protection devices		VKA...Inner thermostat. High-pressure switch YKA...Anti-phase protector, Thermal relay, Thermal switch, High-pressute switch			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Propeller (direct) × 1		Propeller (direct) × 2	
		Fan motor output	kW	0.085		0.065 + 0.065	
		Airflow	m³/min <CFM>	50 (1,764)		95 (3,350)	
	Defrost method			Reverse cycle			
	Crankcase heater		W	38		38	
	Noise level		dB	52		54	
	Dimensions	W	mm(in.)	870 (34-1/4)			
		D	mm(in.)	295 + 24 (11-5/8 add 1)			
		H	mm(in.)	850 (33-7/16)		1,258 (49-1/2)	
	Weight		kg(lbs)	75 (165)		94 (207)	
REFRIGERANT PIPING	Refrigerant			R-22			
		Charge	kg,(lbs)	3.2 (7.1)		4.2 (9.2)	
		Oil <Model>	L	1.6 <MS-32>			
	Pipe size O.D.	Liquid	mm(in.)	9.52 (3/8)		9.52 (3/8)	
		Gas	mm(in.)	15.88 (5/8)		19.05 (3/4)	
	Connection method	Indoor side		Flared			
		Outdoor side		Flared			
	Between the indoor & outdoor unit	Height difference		Max. 50m			
		Piping length		Max. 50m			

Notes1. Rating Conditions (JIS B8616)

Cooling : Indoor : 27℃(80°F)DB. 19℃(66°F)WB
Outdoor : 35℃(95°F)DB. 24℃(75°F)WB
Heating : Indoor : 20℃(68°F)DB.
Outdoor : 7℃(45°F)DB. 6℃(43°F)WB.
Refrigerant piping length (one way) : 5m(16ft)

2. Guaranteed operating range

		Indoor	Outdoor
Cooling	Upper limit	35℃ DB, 22.5℃ WB	46℃ DB
	Lower limit	21℃ DB, 15.5℃ WB	-5℃ DB
Heating	Upper limit	27℃ DB	21℃ DB, 15.5℃ WB
	Lower limit	20℃ DB	-8.5℃ DB, -9.5℃ WB

3. Above data based on indicated voltage
Indoor Unit 1 phase 240V 50Hz
Outdoor Unit 1 phase 240V 50Hz / 3 phase 415V 50Hz

Rating Conditions (JIS B8616)

Item / Service Ref.				PCH-5GKSA-E		PCH-6GKSA-E	
Function				Cooling	Heating	Cooling	Heating
Capacity			Btu/h	42,300	47,400	49,500	51,200
			W	12,400	13,900	14,500	15,000
Total input			kW	4.45	4.40	4.97	4.82
INDOOR UNIT	**Service Ref.**			**PCH-5GKSA-E**		**PCH-6GKSA-E**	
	Power supply			Single phase. 50Hz. 220-240V			
		Input	kW	0.24	0.24	0.24	0.24
		Running current	A	1.06	1.06	1.06	1.06
		Starting current	A	2.20	2.20	2.20	2.20
	External finish			Munsell 0.70Y 8.59 / 0.97			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Sirocco (direct)×4			
		Fan motor output	kW	0.15			
		Airflow(Low-High)	m³/min <CFM>	27 -34 (953-1,200)			
		External static pressure	Pa(mmAq)	0 (direct blow)			
	Booster heater		kW	—		—	
	Operation control & Thermostat			Remote controller & built-in			
	Noise level(Low-High)		dB	41-46		42-48	
	Unit drain pipe I.D.		mm(in.)	26 (1)			
	Dimensions	W	mm(in.)	1,620 (63-3/4)			
		D	mm(in.)	680 (26-3/4)			
		H	mm(in.)	270 (10-5/8)			
	Weight		kg(lbs)	43 (95)		45 (99)	
OUTDOOR UNIT	**Service Ref.**			**PUH-5YKSA2.UK**		**PUH-6YKSA2.UK**	
	Power supply			3 phase. 50Hz. 380-415V (4 wires)			
		Input	kW	4.21	4.16	4.73	4.58
		Running current	A	6.89	6.81	7.74	7.50
		Starting current	A	65	65	74	74
	External finish			Munsell 5Y 7/1			
	Refrigerant control			Capillary tube			
	Compressor			Hermetic			
		Model		ZR61KC-TFD		ZR68KC-TFD	
		Motor output	kW	3.5		4.0	
		Starter type		Line start			
		Protection devices		Anti-phase protector, Internal thermostat, Thermal switch, High-pressure switch			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Propeller (direct)×2			
		Fan motor output	kW	0.085 + 0.085		0.10 + 0.10	
		Airflow	m³/min <CFM>	95 (3,350)		100 (3,530)	
	Defrost method			Reverse cycle			
	Crankcase heater		W	38			
	Noise level		dB	55		56	
	Dimensions	W	mm(in.)	970 (38-3/16)			
		D	mm(in.)	345 + 24 (13-9/16 add 1)			
		H	mm(in.)	1,258 (49-1/2)			
	Weight		kg(lbs)	114 (251)		117 (258)	
REFRIGERANT PIPING	Refrigerant			R-22			
		Charge	kg(lbs)	5.4 (11.9)		5.0 (11.0)	
		Oil <Model>	L	1.686 <SONTEX-200>		1.774 <SONTEX-200>	
	Pipe size O.D.	Liquid	mm(in.)	9.52 (3/8)			
		Gas	mm(in.)	19.05 (3/4)			
	Connection method	Indoor side		Flared			
		Outdoor side		Flared			
	Between the indoor & outdoor unit	Height difference		Max. 50m			
		Piping length		Max. 50m			

Notes1. Rating Conditions (JIS B8616)

Cooling : Indoor : 27℃(80°F)DB. 19℃(66°F)WB
Outdoor : 35℃(95°F)DB. 24℃(75°F)WB
Heating : Indoor : 20℃(68°F)DB.
Outdoor : 7℃(45°F)DB. 6℃(43°F)WB.
Refrigerant piping length (one way) : 5m(16ft)

3. Above data based on indicated voltage
Indoor Unit 1 phase 240V 50Hz
Outdoor Unit 3 phase 415V 50Hz

2. Guaranteed operating range

		Indoor	Outdoor
Cooling	Upper limit	35℃ DB, 22.5℃ WB	46℃ DB
	Lower limit	21℃ DB, 15.5℃ WB	-5℃ DB
Heating	Upper limit	27℃ DB	21℃ DB, 15.5℃ WB
	Lower limit	20℃ DB	-8.5℃ DB, -9.5℃ WB

3 DATA

1. PERFORMANCE DATA

1) COOLING CAPACITY<1>

PCH-2GKA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		20				25				30			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	5448	3160	0.58	1.84	5299	3073	0.58	1.92	5104	2960	0.58	2.07
20	18	5800	2668	0.46	1.88	5648	2598	0.46	1.96	5442	2503	0.46	2.12
20	20	6157	2093	0.34	1.92	6012	2044	0.34	2.00	5798	1971	0.34	2.16
22	16	5448	3596	0.66	1.84	5299	3497	0.66	1.92	5104	3369	0.66	2.07
22	18	5800	3132	0.54	1.88	5648	3050	0.54	1.96	5442	2939	0.54	2.12
22	20	6157	2586	0.42	1.92	6012	2525	0.42	2.00	5798	2435	0.42	2.16
24	16	5448	4031	0.74	1.84	5299	3921	0.74	1.92	5104	3777	0.74	2.07
24	18	5800	3596	0.62	1.88	5648	3502	0.62	1.96	5442	3374	0.62	2.12
24	20	6157	3078	0.50	1.92	6012	3006	0.50	2.00	5798	2899	0.50	2.16
24	22	6517	2477	0.38	1.95	6392	2429	0.38	2.04	6171	2345	0.38	2.21
26	16	5448	4467	0.82	1.84	5299	4345	0.82	1.92	5104	4185	0.82	2.07
26	18	5800	4060	0.70	1.88	5648	3953	0.70	1.96	5442	3809	0.70	2.12
26	20	6157	3571	0.58	1.92	6012	3487	0.58	2.00	5798	3363	0.58	2.16
26	22	6517	2998	0.46	1.95	6392	2940	0.46	2.04	6171	2839	0.46	2.21
27	16	5448	4685	0.86	1.84	5299	4557	0.86	1.92	5104	4389	0.86	2.07
27	18	5800	4292	0.74	1.88	5648	4179	0.74	1.96	5442	4027	0.74	2.12
27	20	6157	3817	0.62	1.92	6012	3728	0.62	2.00	5798	3595	0.62	2.16
27	22	6517	3259	0.50	1.95	6392	3196	0.50	2.04	6171	3085	0.50	2.21
28	16	5448	4903	0.90	1.84	5299	4769	0.90	1.92	5104	4594	0.90	2.07
28	18	5800	4524	0.78	1.88	5648	4405	0.78	1.96	5442	4245	0.78	2.12
28	20	6157	4064	0.66	1.92	6012	3968	0.66	2.00	5798	3826	0.66	2.16
28	22	6517	3519	0.54	1.95	6392	3452	0.54	2.04	6171	3332	0.54	2.21
30	16	5448	5339	0.98	1.84	5299	5193	0.98	1.92	5104	5002	0.98	2.07
30	18	5800	4988	0.86	1.88	5648	4857	0.86	1.96	5442	4680	0.86	2.12
30	20	6157	4556	0.74	1.92	6012	4449	0.74	2.00	5798	4290	0.74	2.16
30	22	6517	4041	0.62	1.95	6392	3963	0.62	2.04	6171	3826	0.62	2.21
32	16	5448	5448	1.00	1.84	5299	5200	1.00	1.92	5104	5009	1.00	2.07
32	18	5800	5452	0.94	1.88	5648	5309	0.94	1.96	5442	5115	0.94	2.12
32	20	6157	5049	0.82	1.92	6012	4930	0.82	2.00	5798	4754	0.82	2.16
32	22	6517	4562	0.70	1.95	6392	4475	0.70	2.04	6171	4320	0.70	2.21

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<2>
PCH-2GKA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		35				40				45			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	4897	2840	0.58	2.22	4678	2713	0.58	2.37	4447	2579	0.58	2.52
20	18	5226	2404	0.46	2.27	5000	2300	0.46	2.43	4764	2191	0.46	2.58
20	20	5574	1895	0.34	2.33	5341	1816	0.34	2.49	5099	1734	0.34	2.66
22	16	4897	3232	0.66	2.22	4678	3088	0.66	2.37	4447	2935	0.66	2.52
22	18	5226	2822	0.54	2.27	5000	2700	0.54	2.43	4764	2573	0.54	2.58
22	20	5574	2341	0.42	2.33	5341	2243	0.42	2.49	5099	2141	0.42	2.66
24	16	4897	3624	0.74	2.22	4678	3462	0.74	2.37	4447	3291	0.74	2.52
24	18	5526	3240	0.62	2.27	5000	3100	0.62	2.43	4764	2954	0.62	2.58
24	20	5574	2787	0.50	2.33	5341	2670	0.50	2.49	5099	2549	0.50	2.66
24	22	5940	2257	0.38	2.38	5700	2166	0.38	2.56	5451	2072	0.38	2.75
26	16	4897	4016	0.82	2.22	4678	3836	0.82	2.37	4447	3647	0.82	2.52
26	18	5226	3658	0.70	2.27	5000	3500	0.70	2.43	4764	3335	0.70	2.58
26	20	5574	3233	0.58	2.33	5341	3098	0.58	2.49	5099	2957	0.58	2.66
26	22	5940	2732	0.46	2.38	5700	2622	0.46	2.56	5451	2508	0.46	2.75
27	16	4897	4212	0.86	2.22	4678	4023	0.86	2.37	4447	3825	0.86	2.52
27	18	5226	3867	0.74	2.27	5000	3700	0.74	2.43	4764	3525	0.74	2.58
27	20	5574	3456	0.62	2.33	5341	3311	0.62	2.49	5099	3161	0.62	2.66
27	22	5940	2970	0.50	2.38	5700	2850	0.50	2.56	5451	2726	0.50	2.75
28	16	4897	4407	0.90	2.22	4678	4210	0.90	2.37	4447	4003	0.90	2.52
28	18	5226	4076	0.78	2.27	5000	3900	0.78	2.43	4764	3716	0.78	2.58
28	20	5574	3679	0.66	2.33	5341	3525	0.66	2.49	5099	3365	0.66	2.66
28	22	5940	3208	0.54	2.38	5700	3078	0.54	2.56	5451	2944	0.54	2.75
30	16	4897	4799	0.98	2.22	4678	4585	0.98	2.37	4447	4358	0.98	2.52
30	18	5226	4494	0.86	2.27	5000	4300	0.86	2.43	4764	4097	0.86	2.58
30	20	5574	4125	0.74	2.33	5341	3952	0.74	2.49	5099	3773	0.74	2.66
30	22	5940	3683	0.62	2.38	5700	3534	0.62	2.56	5451	3380	0.62	2.75
32	16	4897	4806	1.00	2.22	4678	4592	1.00	2.37	4447	4365	1.00	2.52
32	18	5226	4913	0.94	2.27	5000	4700	0.94	2.43	4764	4478	0.94	2.58
32	20	5574	4571	0.82	2.33	5341	4380	0.82	2.49	5099	4181	0.82	2.66
32	22	5940	4185	0.70	2.38	5700	3990	0.70	2.56	5451	3816	0.70	2.75

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<3>
PCH-2.5GKA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		20				25				30			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	7062	4167	0.59	2.08	6869	4052	0.59	2.16	6616	3904	0.59	2.33
20	18	7519	3534	0.47	2.12	7321	3441	0.47	2.21	7054	3316	0.47	2.38
20	20	7981	2793	0.35	2.16	7794	2728	0.35	2.25	7515	2630	0.35	2.44
22	16	7062	4713	0.67	2.08	6869	4602	0.67	2.16	6616	4433	0.67	2.33
22	18	7519	4135	0.55	2.12	7321	4027	0.55	2.21	7054	3880	0.55	2.38
22	20	7981	3432	0.43	2.16	7794	3351	0.43	2.25	7515	3232	0.43	2.44
24	16	7062	5296	0.75	2.08	6869	5151	0.75	2.16	6616	4962	0.75	2.33
24	18	7519	4737	0.63	2.12	7321	4612	0.63	2.21	7054	4444	0.63	2.38
24	20	7981	4070	0.51	2.16	7794	3975	0.51	2.25	7515	3833	0.51	2.44
24	22	8448	3295	0.39	2.20	8286	3232	0.39	2.30	7999	3120	0.39	2.49
26	16	7062	5861	0.83	2.08	6869	5701	0.83	2.16	6616	5491	0.83	2.33
26	18	7519	5339	0.71	2.12	7321	5198	0.71	2.21	7054	5009	0.71	2.38
26	20	7981	4709	0.59	2.16	7794	4598	0.59	2.25	7515	4434	0.59	2.44
26	22	8448	3971	0.47	2.20	8286	3895	0.47	2.30	7999	3760	0.47	2.49
27	16	7062	6144	0.87	2.08	6869	5976	0.87	2.16	6616	5756	0.87	2.33
27	18	7519	5639	0.75	2.12	7321	5491	0.75	2.21	7054	5291	0.75	2.38
27	20	7981	5028	0.63	2.16	7794	4910	0.63	2.25	7515	4735	0.63	2.44
27	22	8448	4309	0.51	2.20	8286	4226	0.51	2.30	7999	4080	0.51	2.49
28	16	7062	6426	0.91	2.08	6869	6250	0.91	2.16	6616	6021	0.91	2.33
28	18	7519	5940	0.79	2.12	7321	5784	0.79	2.21	7054	5573	0.79	2.38
28	20	7981	5347	0.67	2.16	7794	5222	0.67	2.25	7515	5035	0.67	2.44
28	22	8448	4647	0.55	2.20	8286	4557	0.55	2.30	7999	4400	0.55	2.49
30	16	7062	6991	0.99	2.08	6869	6800	0.99	2.16	6616	6550	0.99	2.33
30	18	7519	6542	0.87	2.12	7321	6369	0.87	2.21	7054	6137	0.87	2.38
30	20	7981	5986	0.75	2.16	7794	5845	0.75	2.25	7515	5637	0.75	2.44
30	22	8448	5322	0.63	2.20	8286	5220	0.63	2.30	7999	5040	0.63	2.49
32	16	7062	7062	1.00	2.08	6869	6869	1.00	2.16	6616	6616	1.00	2.33
32	18	7519	7143	0.95	2.12	7321	6955	0.95	2.21	7054	6702	0.95	2.38
32	20	7981	6624	0.83	2.16	7794	6469	0.83	2.25	7515	6238	0.83	2.44
32	22	8448	5998	0.71	2.20	8286	5883	0.71	2.30	7999	5679	0.71	2.49

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<4>
PCH-2.5GKA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		35				40				45			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	6348	3745	0.59	2.50	6064	3578	0.59	2.67	5765	3401	0.59	2.84
20	18	6775	3184	0.47	2.56	6482	3046	0.47	2.73	6176	2902	0.47	2.91
20	20	7225	2529	0.35	2.62	6923	2423	0.35	2.81	6609	2313	0.35	3.00
22	16	6348	4253	0.67	2.50	6064	4063	0.67	2.67	5765	2863	0.67	2.84
22	18	6775	3726	0.55	2.56	6482	3565	0.55	2.73	6176	3397	0.55	2.91
22	20	7225	3107	0.43	2.62	6923	2977	0.43	2.81	6609	2842	0.43	3.00
24	16	6348	4761	0.75	2.50	6064	4548	0.75	2.67	5765	4324	0.75	2.84
24	18	6775	4268	0.63	2.56	6482	4083	0.63	2.73	6176	3891	0.63	2.91
24	20	7225	3685	0.51	2.62	6923	3531	0.51	2.81	6609	3371	0.51	3.00
24	22	7700	3003	0.39	2.68	7389	2882	0.39	2.89	7067	2756	0.39	3.10
26	16	6348	5269	0.83	2.50	6064	5033	0.83	2.67	5765	4785	0.83	2.84
26	18	6775	4810	0.71	2.56	6482	4602	0.71	2.73	6176	4385	0.71	2.91
26	20	7225	4263	0.59	2.62	6923	4085	0.59	2.81	6609	3900	0.59	3.00
26	22	7700	3619	0.47	2.68	7389	3473	0.47	2.89	7067	3321	0.47	3.10
27	16	6348	5523	0.87	2.50	6064	5276	0.87	2.67	5765	5016	0.87	2.84
27	18	6775	5081	0.75	2.56	6482	4861	0.75	2.73	6176	4632	0.75	2.91
27	20	7225	4552	0.63	2.62	6923	4362	0.63	2.81	6609	4164	0.63	3.00
27	22	7700	3927	0.51	2.68	7389	3769	0.51	2.89	7067	3604	0.51	3.10
28	16	6348	5777	0.91	2.50	6064	5519	0.91	2.67	5765	5246	0.91	2.84
28	18	6775	5352	0.79	2.56	6482	5121	0.79	2.73	6176	4879	0.79	2.91
28	20	7225	4841	0.67	2.62	6923	4639	0.67	2.81	6609	4428	0.67	3.00
28	22	7700	4235	0.55	2.68	7389	4064	0.55	2.89	7067	3887	0.55	3.10
30	16	6348	6285	0.99	2.50	6064	6004	0.99	2.67	5765	5707	0.99	2.84
30	18	6775	5894	0.87	2.56	6482	5639	0.87	2.73	6176	5373	0.87	2.91
30	20	7225	5419	0.75	2.62	6923	5193	0.75	2.81	6609	4957	0.75	3.00
30	22	7700	4851	0.63	2.68	7389	4955	0.63	2.89	7067	4452	0.63	3.10
32	16	6348	6348	1.00	2.50	6064	6064	1.00	2.67	5765	5765	1.00	2.84
32	18	6775	6436	0.95	2.56	6482	6158	0.95	2.73	6176	5867	0.95	2.91
32	20	7225	5997	0.83	2.62	6923	5746	0.83	2.81	6609	5486	0.83	3.00
32	22	7700	5467	0.71	2.68	7389	5246	0.71	2.89	7067	5017	0.71	3.10

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<5>
PCH-3GKA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		20				25				30			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	7566	4237	0.56	2.63	7359	4121	0.56	2.74	7089	3970	0.56	2.95
20	18	8056	3545	0.44	2.68	7844	3451	0.44	2.80	7558	3326	0.44	3.02
20	20	8551	2736	0.32	2.73	8350	2672	0.32	2.85	8052	2577	0.32	3.08
22	16	7566	4842	0.64	2.63	7359	4710	0.64	2.74	7089	4537	0.64	2.95
22	18	8056	4189	0.52	2.68	7844	4079	0.52	2.80	7558	3930	0.52	3.02
22	20	8551	3420	0.40	2.73	8350	3340	0.40	2.85	8052	3221	0.40	308
24	16	7566	5448	0.72	2.63	7359	5299	0.72	2.74	7089	5104	0.72	2.95
24	18	8056	4834	0.60	2.68	7844	4706	0.60	2.80	7558	4535	0.60	3.02
24	20	8551	4105	0.48	2.73	8350	4008	0.48	2.85	8052	3865	0.48	3.08
24	22	9052	3259	0.36	2.78	8878	3196	0.36	2.91	8571	3085	0.36	3.15
26	16	7566	6053	0.80	2.63	7359	5887	0.80	2.74	7089	5671	0.80	2.95
26	18	8056	5478	0.68	2.68	7844	5334	0.68	2.80	7558	5140	0.68	3.02
26	20	8551	4789	0.56	2.73	8350	4676	0.56	2.85	8052	4509	0.56	3.08
26	22	9052	3983	0.44	2.78	8878	3906	0.44	2.91	8571	3771	0.44	3.15
27	16	7566	6356	0.84	2.63	7359	6182	0.84	2.74	7089	5955	0.84	2.95
27	18	8056	5800	0.72	2.68	7844	5648	0.72	2.80	7558	5442	0.72	3.02
27	20	8551	5131	0.60	2.73	8350	5010	0.60	2.85	8052	4831	0.60	3.08
27	22	9052	4345	0.48	2.78	8878	4262	0.48	2.91	8571	4114	0.48	3.15
28	16	7566	6658	0.88	2.63	7359	6476	0.88	2.74	7089	6238	0.88	2.95
28	18	8056	6123	0.76	2.68	7844	5961	0.76	2.80	7558	5744	0.76	3.02
28	20	8551	5473	0.64	2.73	8350	5344	0.64	2.85	8052	5153	0.64	3.08
28	22	9052	4707	0.52	2.78	8878	4617	0.52	2.91	8571	4457	0.52	3.15
30	16	7566	7264	0.96	2.63	7359	7065	0.96	2.74	7089	6805	0.96	2.95
30	18	8056	6767	0.84	2.68	7844	6589	0.84	2.80	7558	6349	0.84	3.02
30	20	8551	6157	0.72	2.73	8350	6012	0.72	2.85	8052	5798	0.72	3.08
30	22	9052	5431	0.60	2.78	8878	5327	0.60	2.91	8571	5142	0.60	3.15
32	16	7566	7566	1.00	2.63	7359	7359	1.00	2.74	7089	7089	1.00	2.95
32	18	8056	7412	0.92	2.68	7844	7216	0.92	2.80	7558	6954	0.92	3.02
32	20	8551	6841	0.80	2.73	8350	6680	0.80	2.85	8052	6442	0.80	3.08
32	22	9052	6155	0.68	2.78	8878	6037	0.68	2.91	8571	5828	0.68	3.15

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<6>
PCH-3GKA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		35				40				45			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	6802	3809	0.56	3.16	6498	3639	0.56	3.38	6177	3459	0.56	3.59
20	18	7259	3194	0.44	3.24	6945	3056	0.44	3.46	6617	2911	0.44	3.69
20	20	7741	2477	0.32	3.32	7418	2374	0.32	3.56	7081	2266	0.32	3.80
22	16	6802	4353	0.64	3.16	6498	4158	0.64	3.38	6177	3953	0.64	3.59
22	18	7259	3774	0.52	3.24	6945	3611	0.52	3.46	6617	6441	0.52	3.69
22	20	7741	3097	0.40	3.32	7418	2967	0.40	3.56	7081	2833	0.40	3.80
24	16	6802	4897	0.72	3.16	6498	4678	0.72	3.38	6177	4447	0.72	3.59
24	18	7259	4355	0.60	3.24	6945	4167	0.60	3.46	6617	3970	0.60	3.69
24	20	7741	3716	0.48	3.32	7418	3561	0.48	3.56	7081	3399	0.48	3.80
24	22	8250	2970	0.36	3.40	7917	3850	0.36	3.66	7571	2726	0.36	3.92
26	16	6802	5441	0.80	3.16	6498	5198	0.80	3.38	6177	4941	0.80	3.59
26	18	7259	4936	0.68	3.24	6945	4722	0.68	3.46	6617	4499	0.68	3.69
26	20	7741	4335	0.56	3.32	7418	4154	0.56	3.56	7081	3966	0.56	3.80
26	22	8250	3630	0.44	3.40	7917	3484	0.44	3.66	7571	3331	0.44	3.92
27	16	6802	5713	0.84	3.16	6498	5458	0.84	3.38	6177	5189	0.84	3.59
27	18	7259	5226	0.72	3.24	6945	5000	0.72	3.46	6617	4764	0.72	3.69
27	20	7741	4645	0.60	3.32	7418	4451	0.60	3.56	7081	4249	0.60	3.80
27	22	8250	3960	0.48	3.40	7917	3800	0.48	3.66	7571	3634	0.48	3.92
28	16	6802	5985	0.88	3.16	6498	5718	0.88	3.38	6177	5436	0.88	3.59
28	18	7259	5516	0.76	3.24	6945	5278	0.76	3.46	6617	5029	0.76	3.69
28	20	7741	4955	0.64	3.32	7418	4747	0.64	3.56	7081	4532	0.64	3.80
28	22	8250	4290	0.52	3.40	7917	4117	0.52	3.66	7571	3937	0.52	3.92
30	16	6802	6530	0.96	3.16	6498	6238	0.96	3.38	6177	5930	0.96	3.59
30	18	7259	6097	0.84	3.24	6945	5834	0.84	3.46	6617	5558	0.84	3.69
30	20	7741	5574	0.72	3.32	7418	5341	0.72	3.56	7081	5099	0.72	3.80
30	22	8250	4950	0.60	3.40	7917	4750	0.60	3.66	7571	4543	0.60	3.92
32	16	6802	6802	1.00	3.16	6498	6498	1.00	3.38	6177	6177	1.00	3.59
32	18	7259	6678	0.92	3.24	6945	6389	0.92	3.46	6617	6087	0.92	3.69
32	20	7741	6193	0.80	3.32	7418	5934	0.80	3.56	7081	5665	0.80	3.80
32	22	8250	5610	0.68	3.40	7917	5384	0.68	3.66	7571	5149	0.68	3.92

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<7>
PCH-4GKSA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		20				25				30			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	10088	5851	0.58	2.69	9812	5691	0.58	2.81	9452	5482	0.58	3.02
20	18	10741	4941	0.46	2.75	10459	4811	0.46	2.87	10078	4636	0.46	3.09
20	20	11402	3877	0.34	2.80	11134	3785	0.34	2.92	10736	3650	0.34	3.16
22	16	10088	6658	0.66	2.69	9812	6476	0.66	2.81	9452	6238	0.66	3.02
22	18	10741	5800	0.54	2.75	10459	5648	0.54	2.87	10078	5442	0.54	3.09
22	20	11402	4789	0.42	2.80	11134	4676	0.42	2.92	10736	4509	0.42	3.16
24	16	10088	7465	0.74	2.69	9812	7261	0.74	2.81	9452	6994	0.74	3.02
24	18	10741	6660	0.62	2.75	10459	6484	0.62	2.87	10078	6248	0.62	3.09
24	20	11402	5701	0.50	2.80	11134	5567	0.50	2.92	10736	5368	0.50	3.16
24	22	12069	4586	0.38	2.85	11838	4498	0.38	2.98	11427	4342	0.38	3.23
26	16	10088	8272	0.82	2.69	9812	8046	0.82	2.81	9452	7750	0.82	3.02
26	18	10741	7519	0.70	2.75	10459	7321	0.70	2.87	10078	7054	0.70	3.09
26	20	11402	6613	0.58	2.80	11134	6458	0.58	2.92	10736	6227	0.58	3.16
26	22	12069	5552	0.46	2.85	11838	5445	0.46	2.98	11427	5257	0.46	3.23
27	16	10088	8676	0.86	2.69	9812	8439	0.86	2.81	9452	8128	0.86	3.02
27	18	10741	7949	0.74	2.75	10459	7739	0.74	2.87	10078	7458	0.74	3.09
27	20	11402	7069	0.62	2.80	11134	6903	0.62	2.92	10736	6675	0.62	3.16
27	22	12069	6034	0.50	2.85	11838	5919	0.50	2.98	11427	5714	0.50	3.23
28	16	10088	9080	0.90	2.69	9812	8831	0.90	2.81	9452	8507	0.90	3.02
28	18	10741	8378	0.78	2.75	10459	8158	0.78	2.87	10078	7861	0.78	3.09
28	20	11402	7525	0.66	2.80	11134	7348	0.66	2.92	10736	7086	0.66	3.16
28	22	12069	6517	0.54	2.85	11838	6392	0.54	2.98	11427	6171	0.54	3.23
30	16	10088	9887	0.98	2.69	9812	9616	0.98	2.81	9452	9263	0.98	3.02
30	18	10741	9238	0.86	2.75	10459	8994	0.86	2.87	10078	8667	0.86	3.09
30	20	11402	8437	0.74	2.80	11134	8239	0.74	2.92	10736	7945	0.74	3.16
30	22	12069	7483	0.62	2.85	11838	7339	0.62	2.98	11427	7085	0.62	3.23
32	16	10088	10088	1.00	2.69	9812	9812	1.00	2.81	9452	9452	1.00	3.02
32	18	10741	10097	0.94	2.75	10459	9831	0.94	2.87	10078	9473	0.94	3.09
32	20	11402	9349	0.82	2.80	11134	9130	0.82	2.92	10736	8804	0.82	3.16
32	22	12069	8448	0.70	2.85	11838	8286	0.70	2.98	11427	7999	0.70	3.23

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<8>
PCH-4GKSA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		35				40				45			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	9069	5260	0.58	3.24	8663	5025	0.58	3.46	8236	4777	0.58	3.68
20	18	9678	4452	0.46	3.32	9260	4259	0.46	3.55	8822	4058	0.46	3.78
20	20	10322	3509	0.34	3.40	9890	3363	0.34	3.64	9442	3210	0.34	3.89
22	16	9069	5985	0.66	3.24	8663	5718	0.66	3.46	8236	5436	0.66	3.68
22	18	9678	5226	0.54	3.32	9260	5000	0.54	3.55	8822	4764	0.54	3.78
22	20	10322	4335	0.42	3.40	9890	4154	0.42	3.64	9442	3966	0.42	3.89
24	16	9069	6711	0.74	3.24	8663	6411	0.74	3.46	8236	6094	0.74	3.68
24	18	9678	6000	0.62	3.32	9260	5741	0.62	3.55	8822	5470	0.62	3.78
24	20	10322	5161	0.50	3.40	9890	4945	0.50	3.64	9442	4721	0.50	3.89
24	22	11000	4180	0.38	3.48	10556	4011	0.38	3.75	10095	3836	0.38	4.02
26	16	9069	7436	0.82	3.24	8663	7104	0.82	3.46	8236	6753	0.82	3.68
26	18	9678	6775	0.70	3.32	9260	6482	0.70	3.55	8822	6176	0.70	3.78
26	20	10322	5987	0.58	3.40	9890	5736	0.58	3.64	9442	5476	0.58	3.89
26	22	11000	5060	0.46	3.48	10556	4856	0.46	3.75	10095	4644	0.46	4.02
27	16	9069	7799	0.86	3.24	8663	7451	0.86	3.46	8236	7083	0.86	3.68
27	18	9678	7162	0.74	3.32	9260	6852	0.74	3.55	8822	6528	0.74	3.78
27	20	10322	6400	0.62	3.40	9890	6132	0.62	3.64	9442	5854	0.62	3.89
27	22	11000	5500	0.50	3.48	10556	5278	0.50	3.75	10095	5048	0.50	4.02
28	16	9069	8162	0.90	3.24	8663	7797	0.90	3.46	8236	7412	0.90	3.68
28	18	9678	7549	0.78	3.32	9260	7222	0.78	3.55	8822	6881	0.78	3.78
28	20	10322	6812	0.66	3.40	9890	6528	0.66	3.64	9442	6232	0.66	3.89
28	22	11000	5940	0.54	3.48	10556	5700	0.54	3.75	10095	5451	0.54	4.02
30	16	9069	8887	0.98	3.24	8663	8490	0.98	3.46	8236	8071	0.98	3.68
30	18	9678	8323	0.86	3.32	9260	7963	0.86	3.55	8822	7587	0.86	3.78
30	20	10322	7638	0.74	3.40	9890	7319	0.74	3.64	9442	6987	0.74	3.89
30	22	11000	6820	0.62	3.48	10556	6545	0.62	3.75	10095	6259	0.62	4.02
32	16	9069	9069	1.00	3.24	8663	8663	1.00	3.46	8236	8236	1.00	3.68
32	18	9678	9097	0.94	3.32	9260	8704	0.94	3.55	8822	8293	0.94	3.78
32	20	10322	8464	0.82	3.40	9890	8110	0.82	3.64	9442	7742	0.82	3.89
32	22	11000	7700	0.70	3.48	10556	7386	0.70	3.75	10095	7067	0.70	4.02

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<9>
PCH-5GKSA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		20				25				30			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	12510	7881	0.63	3.57	12167	7665	0.63	3.72	11720	7384	0.63	4.00
20	18	13319	6793	0.51	3.64	12969	6614	0.51	3.79	12496	6373	0.51	4.10
20	20	14138	5514	0.39	3.71	13806	5384	0.39	3.87	13313	5192	0.39	4.19
22	16	12510	8882	0.71	3.57	12167	8639	0.71	3.72	11720	8321	0.71	4.00
22	18	13319	7858	0.59	3.64	12969	7652	0.59	3.79	12496	7373	0.59	4.10
22	20	14138	6645	0.47	3.71	13806	6489	0.47	3.87	13313	6257	0.47	4.19
24	16	12510	9883	0.79	3.57	12167	9612	0.79	3.72	11720	9259	0.79	4.00
24	18	13319	8924	0.67	3.64	12969	8689	0.67	3.79	12496	8373	0.67	4.10
24	20	14138	7776	0.55	3.71	13806	7593	0.55	3.87	13313	7322	0.55	4.19
24	22	14965	6435	0.43	3.78	14679	6312	0.43	3.95	14170	6093	0.43	4.27
26	16	12510	10883	0.87	3.57	12167	10585	0.87	3.72	11720	10196	0.87	4.00
26	18	13319	9990	0.75	3.64	12969	9727	0.75	3.79	12496	9372	0.75	4.10
26	20	14138	8907	0.63	3.71	13806	8698	0.63	3.87	13313	8387	0.63	4.19
26	22	14965	7632	0.51	3.78	14679	7486	0.51	3.95	14170	7227	0.51	4.27
27	16	12510	11384	0.91	3.57	12167	11072	0.91	3.72	11720	10665	0.91	4.00
27	18	13319	10522	0.79	3.64	12969	10245	0.79	3.79	12496	9872	0.79	4.10
27	20	14138	9472	0.67	3.71	13806	9250	0.67	3.87	13313	8920	0.67	4.19
27	22	14965	8231	0.55	3.78	14679	8073	0.55	3.95	14170	7794	0.55	4.27
28	16	12510	11884	0.95	3.57	12167	11559	0.95	3.72	11720	11134	0.95	4.00
28	18	13319	11055	0.83	3.64	12969	10764	0.83	3.79	12496	10372	0.83	4.10
28	20	14138	10038	0.71	3.71	13806	9802	0.71	3.87	13313	9452	0.71	4.19
28	22	14965	8830	0.59	3.78	14679	8660	0.59	3.95	14170	8360	0.59	4.27
30	16	12510	12510	1.00	3.57	12167	12167	1.00	3.72	11720	11720	1.00	4.00
30	18	13319	12121	0.91	3.64	12969	11802	0.91	3.79	12496	11372	0.91	4.10
30	20	14138	11169	0.79	3.71	13806	10907	0.79	3.87	13313	10517	0.79	4.19
30	22	14965	10027	0.67	3.78	14679	9835	0.67	3.95	14170	9494	0.67	4.27
32	16	12510	12510	1.00	3.57	12167	12167	1.00	3.72	11720	11720	1.00	4.00
32	18	13319	13186	0.99	3.64	12969	12839	0.99	3.79	12496	12317	0.99	4.10
32	20	14138	12300	0.87	3.71	13806	12011	0.87	3.87	13313	11582	0.87	4.19
32	22	14965	11224	0.75	3.78	14679	11009	0.75	3.95	14170	10628	0.75	4.27

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<10>
PCH-5GKSA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		35				40				45			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	11245	7085	0.63	4.29	10743	6768	0.63	4.58	10212	6434	0.63	4.87
20	18	12001	6120	0.51	4.40	11482	5856	0.51	4.70	10939	5579	0.51	5.00
20	20	12799	4992	0.39	4.50	12264	4783	0.39	4.82	11708	4566	0.39	5.15
22	16	11245	7984	0.71	4.29	10743	7627	0.71	4.58	10212	7251	0.71	4.87
22	18	12001	7080	0.59	4.40	11482	6774	0.59	4.70	10939	6454	0.59	5.00
22	20	12799	6016	0.47	4.50	12264	5764	0.47	4.82	11708	5503	0.47	5.15
24	16	11245	8884	0.79	4.29	10743	8487	0.79	4.58	10212	8068	0.79	4.87
24	18	12001	8041	0.67	4.40	11482	7693	0.67	4.70	10939	7329	0.67	5.00
24	20	12799	7040	0.55	4.50	12264	6745	0.55	4.82	11708	6439	0.55	5.15
24	22	13640	5865	0.43	4.61	13090	5629	0.43	4.96	12518	5383	0.43	5.32
26	16	11245	9783	0.87	4.29	10743	9346	0.87	4.58	10212	8885	0.87	4.87
26	18	12001	9001	0.75	4.40	11482	8611	0.75	4.70	10939	8205	0.75	5.00
26	20	12799	8064	0.63	4.50	12264	7726	0.63	4.82	11708	7376	0.63	5.15
26	22	13640	6957	0.51	4.61	13090	6676	0.51	4.96	12518	6384	0.51	5.32
27	16	11245	10233	0.91	4.29	10743	9776	0.91	4.58	10212	9293	0.91	4.87
27	18	12001	9481	0.79	4.40	11482	9071	0.79	4.70	10939	8642	0.79	5.00
27	20	12799	8575	0.67	4.50	12264	8217	0.67	4.82	11708	7844	0.67	5.15
27	22	13640	7502	0.55	4.61	13090	7199	0.55	4.96	12518	6885	0.55	5.32
28	16	11245	10683	0.95	4.29	10743	10206	0.95	4.58	10212	9702	0.95	4.87
28	18	12001	9961	0.83	4.40	11482	9530	0.83	4.70	10939	9080	0.83	5.00
28	20	12799	9087	0.71	4.50	12264	8708	0.71	4.82	11708	8313	0.71	5.15
28	22	13640	8048	0.59	4.61	13090	7723	0.59	4.96	12518	7386	0.59	5.32
30	16	11245	11245	1.00	4.29	10743	10743	1.00	4.58	10212	10212	1.00	4.87
30	18	12001	10921	0.91	4.40	11482	10448	0.91	4.70	10939	9955	0.91	5.00
30	20	12799	10111	0.79	4.50	12264	9689	0.79	4.82	11708	9249	0.79	5.15
30	22	13640	9139	0.67	4.61	13090	8770	0.67	4.96	12518	8387	0.67	5.32
32	16	11245	11245	1.00	4.29	10743	10743	1.00	4.58	10212	10212	1.00	4.87
32	18	12001	11881	0.99	4.40	11482	11397	0.99	4.70	10939	10830	0.99	5.00
32	20	12799	11135	0.87	4.50	12264	10670	0.87	4.82	11708	10186	0.87	5.13
32	22	13640	10230	0.75	4.61	13090	9817	0.75	4.96	12518	9389	0.75	5.32

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<11>
PCH-6GKSA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		20				25				30			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	14628	8046	0.55	3.98	14228	7825	0.55	4.15	13705	7538	0.55	4.47
20	18	15575	6697	0.43	4.06	15165	6521	0.43	4.24	14613	6283	0.43	4.57
20	20	16532	5125	0.31	4.14	16144	5005	0.31	4.32	15568	4826	0.31	4.67
22	16	14628	9216	0.63	3.98	14228	8963	0.63	4.15	13705	8634	0.63	4.47
22	18	15575	7943	0.51	4.06	15165	7734	0.51	4.24	14613	7453	0.51	4.57
22	20	16532	6448	0.39	4.14	16144	6296	0.39	4.32	15568	6071	0.39	4.67
24	16	14628	10386	0.71	3.98	14228	10102	0.71	4.15	13705	9730	0.71	4.47
24	18	15575	9189	0.59	4.06	15165	8947	0.59	4.24	14613	8622	0.59	4.57
24	20	16532	7770	0.47	4.14	16144	7588	0.47	4.32	15568	7317	0.47	4.67
24	22	17500	6125	0.35	4.22	17164	6008	0.35	4.41	16570	5799	0.35	4.77
26	16	14628	11556	0.79	3.98	14228	11240	0.79	4.15	13705	10827	0.79	4.47
26	18	15575	10435	0.67	4.06	15165	10161	0.67	4.24	14613	9791	0.67	4.57
26	20	16532	9093	0.55	4.14	16144	8879	0.55	4.32	15568	8562	0.55	4.67
26	22	17500	7525	0.43	4.22	17164	7381	0.43	4.41	16570	7125	0.43	4.77
27	16	14628	12141	0.83	3.98	14228	11809	0.83	4.15	13705	11375	0.83	4.47
27	18	15575	11058	0.71	4.06	15165	10767	0.71	4.24	14613	10375	0.71	4.57
27	20	16532	9754	0.59	4.14	16144	9525	0.59	4.32	15568	9185	0.59	4.67
27	22	17500	8225	0.47	4.22	17164	8067	0.47	4.41	16570	7788	0.47	4.77
28	16	14628	12727	0.87	3.98	14228	12378	0.87	4.15	13705	11923	0.87	4.47
28	18	15575	11681	0.75	4.06	15165	11374	0.75	4.24	14613	10960	0.75	4.57
28	20	16532	10415	0.63	4.14	16144	10171	0.63	4.32	15568	9808	0.63	4.67
28	22	17500	8925	0.51	4.22	17164	8754	0.51	4.41	16570	8451	0.51	4.77
30	16	14628	13897	0.95	3.98	14228	13516	0.95	4.15	13705	13020	0.95	4.47
30	18	15575	12927	0.83	4.06	15165	12587	0.83	4.24	14613	12129	0.83	4.57
30	20	16532	11738	0.71	4.14	16144	11462	0.71	4.32	15568	11053	0.71	4.67
30	22	17500	10325	0.59	4.22	17164	10127	0.59	4.41	16570	9776	0.59	4.77
32	16	14628	14628	1.00	3.98	14228	14228	1.00	4.15	13705	13705	1.00	4.47
32	18	15575	14173	0.91	4.06	15165	13800	0.91	4.24	14613	13298	0.91	4.57
32	20	16532	13061	0.79	4.14	16144	12754	0.79	4.32	15568	12298	0.79	4.67
32	22	17500	11725	0.67	4.22	17164	11500	0.67	4.41	16570	11102	0.67	4.77

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

COOLING CAPACITY<12>
PCH-6GKSA

Indoor Intake air °C DB	Indoor Intake air °C WB	Outdoor intake air °C DB											
		35				40				45			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	13150	7232	0.55	4.79	12562	6909	0.55	5.12	11942	6568	0.55	5.44
20	18	14033	6034	0.43	4.91	13426	5773	0.43	5.25	12792	5501	0.43	5.58
20	20	14967	4640	0.31	5.03	14341	4446	0.31	5.39	13691	4244	0.31	5.75
22	16	13150	8284	0.63	4.79	12562	7914	0.63	5.12	11942	7523	0.63	5.44
22	18	14033	7157	0.51	4.91	13426	6847	0.51	5.25	12792	6524	0.51	5.58
22	20	14967	5837	0.39	5.03	14341	5593	0.39	5.39	13691	5339	0.39	5.75
24	16	13150	9336	0.71	4.79	12562	8919	0.71	5.12	11942	8479	0.71	5.44
24	18	14033	8280	0.59	4.91	13426	7922	0.59	5.25	12792	7547	0.59	5.58
24	20	14967	7034	0.47	5.03	14341	6740	0.47	5.39	13691	6435	0.47	5.75
24	22	15951	5583	0.35	5.15	15307	5357	0.35	5.54	14638	5123	0.35	5.94
26	16	13150	10388	0.79	4.79	12562	9924	0.79	5.12	11942	9434	0.79	5.44
26	18	14033	9402	0.67	4.91	13426	8996	0.67	5.25	12792	8571	0.67	5.58
26	20	14967	8232	0.55	5.03	14341	7888	0.55	5.39	13691	7530	0.55	5.75
26	22	15951	6859	0.43	5.15	15307	6582	0.43	5.54	14638	6294	0.43	5.94
27	16	13150	10914	0.83	4.79	12562	10426	0.83	5.12	11942	9912	0.83	5.44
27	18	14033	9964	0.71	4.91	13426	9533	0.71	5.25	12792	9082	0.71	5.58
27	20	14967	8830	0.59	5.03	14341	8461	0.59	5.39	13691	8078	0.59	5.75
27	22	15951	7497	0.47	5.15	15307	7194	0.47	5.54	14638	6880	0.47	5.94
28	16	13150	11440	0.87	4.79	12562	10929	0.87	5.12	11942	10389	0.87	5.44
28	18	14033	10525	0.75	4.91	13426	10070	0.75	5.25	12792	9594	0.75	5.58
28	20	14967	9429	0.63	5.03	14341	9035	0.63	5.39	13691	8625	0.63	5.75
28	22	15951	8135	0.51	5.15	15307	7806	0.51	5.54	14638	7465	0.51	5.94
30	16	13150	12492	0.95	4.79	12562	11934	0.95	5.12	11942	11345	0.95	5.44
30	18	14033	11648	0.83	4.91	13426	11144	0.83	5.25	12792	10617	0.83	5.58
30	20	14967	10648	0.71	5.03	14341	10182	0.71	5.39	13691	9721	0.71	5.75
30	22	15951	9411	0.59	5.15	15307	9031	0.59	5.54	14638	8636	0.59	5.94
32	16	13150	13150	1.00	4.79	12562	12562	1.00	5.12	11942	11942	1.00	5.44
32	18	14033	12770	0.91	4.91	13426	12218	0.91	5.25	12792	11641	0.91	5.58
32	20	14967	11824	0.79	5.03	14341	11330	0.79	5.39	13691	10816	0.79	5.75
32	22	15951	10687	0.67	5.15	15307	10255	0.67	5.54	14638	9807	0.67	5.94

Notes CA : Capacity (W) SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW) SHF : Sensible heat factor

Cooling capacity correction factors

Service Ref.	Refrigerant piping length (one way)									
	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m
PCH-2GKA-E	1.00	0.992	0.983	0.978	0.966	0.959	0.950	0.945	—	—
PCH-2.5GKA-E	1.00	0.989	0.980	0.970	0.960	0.950	0.940	0.930	0.920	0.910
PCH-3GKA-E	1.00	0.981	0.968	0.952	0.940	0.925	0.913	0.900	0.886	0.874
PCH-4GKSA-E	1.00	0.989	0.980	0.970	0.960	0.950	0.940	0.930	0.920	0.910
PCH-5GKSA-E	1.00	0.981	0.968	0.952	0.940	0.925	0.913	0.900	0.886	0.874
PCH-6GKSA-E	1.00	0.975	0.955	0.935	0.918	0.900	0.884	0.869	0.855	0.840

2. HEATING CAPACITY

Service Ref.	Indoor Intake air °C DB	Outdoor intake air °C WB											
		-10		-5		0		5		10		15	
		CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.
PCH-2GKA-E	15	4246	1.58	4866	1.75	5546	1.93	6285	2.11	7082	2.31	7936	2.52
	20	4066	1.71	4675	1.89	5337	2.08	6051	2.28	6816	2.49	7632	2.71
	25	3907	1.81	4485	2.01	5125	2.22	5827	2.44	6590	2.67	7413	2.91
PCH-2.5GKA-E	15	4862	1.61	5573	1.78	6351	1.96	7198	2.15	8110	2.35	9088	2.57
	20	4656	1.73	5354	1.92	6112	2.11	6929	2.32	7806	2.53	8740	2.76
	25	4474	1.84	5136	2.04	5869	2.26	6673	2.48	7546	2.72	8489	2.96
PCH-3GKA-E	15	5821	2.09	6671	2.31	7604	2.55	8617	2.80	9710	3.06	10880	3.34
	20	5574	2.26	6409	2.49	7317	2.75	8296	3.01	9345	3.30	10463	3.59
	25	5356	2.40	6149	2.66	7027	2.94	7989	3.23	9034	3.53	10163	3.85
PCH-4GKSA-E	15	7156	2.29	8202	2.53	9348	2.78	10594	3.05	11937	3.34	13376	3.64
	20	6852	2.46	7880	2.72	8996	3.00	10199	3.29	11488	3.60	12863	3.92
	25	6585	2.61	7560	2.90	8639	3.20	9821	3.52	11107	3.86	12495	4.21
PCH-5GKSA-E	15	9519	3.00	10910	3.32	12434	3.65	14091	4.01	15878	4.39	17792	4.78
	20	9115	3.23	10481	3.58	11966	3.94	13566	4.32	15281	4.72	17110	5.15
	25	8759	3.43	10056	3.81	11491	4.21	13064	4.63	14774	5.07	16620	5.52
PCH-6GKSA-E	15	10272	3.29	11773	3.63	13418	4.00	15206	4.39	17135	4.81	19200	5.24
	20	9836	3.54	11311	3.92	12912	4.31	14640	4.73	16491	5.18	18464	5.64
	25	9453	3.76	10851	4.17	12400	4.61	14098	5.07	15943	5.55	17935	6.05

Notes CA : Capacity (W)
P.C. : Power consumption (kW)

Heating capacity correction factors

Service Ref.	Refrigerant piping length (one way)									
	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m
PCH-2GKA-E	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	—	—
PCH-2.5GKA-E	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	0.993	0.990
PCH-3GKA-E	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	0.993	0.990
PCH-4GKSA-E	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	0.993	0.990
PCH-5GKSA-E	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	0.993	0.990
PCH-6GKSA-E	1.00	1.00	1.00	1.00	1.00	1.00	0.998	0.995	0.993	0.990

3. ELECTRICAL DATA

Rating Conditions (JIS B8616)
Cooling : Indoor 27℃DB. 19℃WB. Outdoor 35℃DB.
Heating : Indoor 20℃DB. Outdoor 7℃DB. 6℃WB.
Indoor·····220V 50Hz 1phase
Outdoor··· 220V 50Hz 1phase / 380V 50Hz 3phase Refrigerant piping length : 5m

Service Ref.		PCH-2GKA-E		PCH-2.5GKA-E		PCH-3GKA-E		PCH-4GKSA-E		PCH-5GKSA-E		PCH-6GKSA-E	
Mode		Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
Capacity (W)		5,300	6,100	6,900	7,000	7,400	8,400	9,900	10,350	12,200	13,700	14,400	14,800
Total Input (kW)		2.20	2.22	2.52	2.27	3.24	3.03	3.31	3.30	4.39	4.33	4.84	4.76
Indoor	Input (kW)	0.08	0.08	0.11	0.11	0.11	0.11	0.14	0.14	0.20	0.20	0.20	0.20
	Current (A)	0.38	0.38	0.51	0.51	0.51	0.51	0.68	0.68	0.96	0.96	0.96	0.96
	Starting current (A)	1.10	1.10	1.17	1.17	1.17	1.17	1.36	1.36	2.0	2.0	2.0	2.0
Outdoor	Input (kW)	2.12	2.14	2.41	2.16	3.13	2.92	3.17	3.16	4.19	4.13	4.64	4.56
	Current (A)	9.83	9.93	11.18	10.02	14.67/5.23	13.68/4.88	5.29	5.28	7.32	7.21	8.10	7.96
	Starting current (A)	43	43	52	52	54 / 34	54 / 34	37	37	60	60	68	68

Rating Conditions (JIS B8616)
Cooling : Indoor 27℃DB. 19℃WB. Outdoor 35℃DB.
Heating : Indoor 20℃DB. Outdoor 7℃DB. 6℃WB.
Indoor·····230V 50Hz 1phase
Outdoor··· 230V 50Hz 1phase / 400V 50Hz 3phase Refrigerant piping length : 5m

Service Ref.		PCH-2GKA-E		PCH-2.5GKA-E		PCH-3GKA-E		PCH-4GKSA-E		PCH-5GKSA-E		PCH-6GKSA-E	
Mode		Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
Capacity (W)		5,350	6,150	6,950	7050	7,450	8,450	9,950	10,400	12,300	13,800	14,450	14,900
Total Input (kW)		2.25	2.27	2.56	2.32	3.26	3.05	3.34	3.33	4.42	4.37	4.91	4.79
Indoor	Input (kW)	0.09	0.09	0.12	0.12	0.12	0.12	0.15	0.15	0.22	0.22	0.22	0.22
	Current (A)	0.41	0.41	0.53	0.53	0.53	0.53	0.69	0.69	1.01	1.01	1.01	1.01
	Starting current (A)	1.15	1.15	1.22	1.22	1.22	1.22	1.42	1.42	2.10	2.10	2.10	2.10
Outdoor	Input (kW)	2.16	2.18	2.44	2.20	3.14	2.93	3.19	3.18	4.20	4.15	4.69	4.57
	Current (A)	9.78	9.87	10.94	9.86	14.22 / 5.21	13.27 /4.86	5.23	5.22	7.05	6.97	7.87	7.67
	Starting current (A)	44	44	52	52	56 / 36	56 / 36	39	39	63	63	71	71

Rating Conditions (JIS B8616)
Cooling : Indoor 27℃DB. 19℃WB. Outdoor 35℃DB.
Heating : Indoor 20℃DB. Outdoor 7℃DB. 6℃WB.
Indoor·····240V 50Hz 1phase
Outdoor··· 240V 50Hz 1phase / 415V 50Hz 3phase Refrigerant piping length : 5m

Service Ref.		PCH-2GKA-E		PCH-2.5GKA-E		PCH-3GKA-E		PCH-4GKSA-E		PCH-5GKSA-E		PCH-6GKSA-E	
Mode		Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
Capacity (W)		5,400	6,200	7,000	7,100	7,500	8,500	10,000	10,450	12,400	13,900	14,500	15,000
Total Input (kW)		2.30	2.32	2.59	2.36	3.28	3.07	3.36	3.35	4.45	4.40	4.97	4.82
Indoor	Input (kW)	0.10	0.10	0.13	0.13	0.13	0.13	0.16	0.16	0.24	0.24	0.24	0.24
	Current (A)	0.43	0.43	0.55	0.55	0.55	0.55	0.70	0.70	1.06	1.06	1.06	1.06
	Starting current (A)	1.20	1.20	1.27	1.27	1.27	1.27	1.48	1.48	2.20	2.20	2.20	2.20
Outdoor	Input (kW)	2.20	2.22	2.46	2.23	3.15	2.94	3.20	3.19	4.21	4.16	4.73	4.58
	Current (A)	9.86	9.95	10.68	9.78	13.82 / 5.16	12.89 / 4.81	5.24	5.22	6.89	6.81	7.74	7.50
	Starting current (A)	45	45	52	52	58 / 37	58 / 37	40	40	65	65	74	74

4. STANDARD OPERATION DATA

Rating Conditions (JIS B8616)

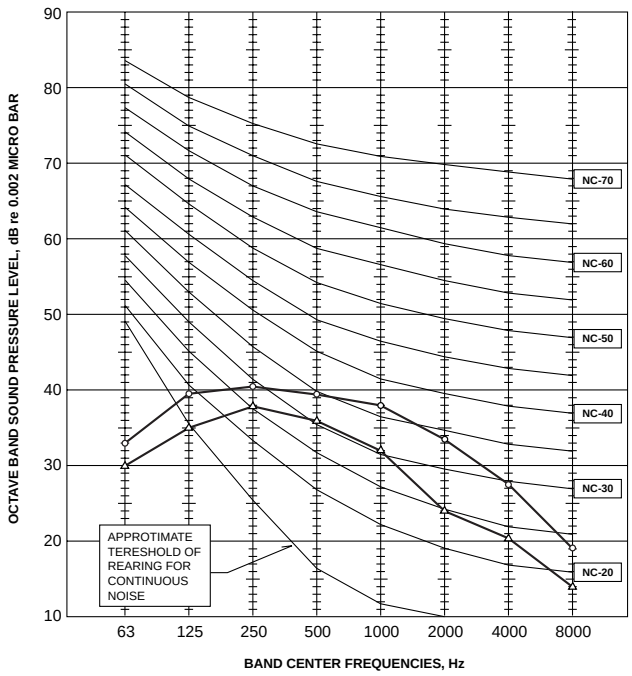
Service Ref.			PCH-2GKA-E		PCH-2.5GKA-E		PCH-3GKA-E		PCH-4GKSA-E		PCH-5GKSA-E		PCH-6GKSA-E	
Mode			Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
Total	Capacity	W	5,400	6,200	7,000	7,100	7,500	8,500	10,000	10,450	12,400	13,900	14,500	15,000
	Input	kW	2.30	2.32	2.59	2.36	3.28	3.07	3.36	3.35	4.45	4.40	4.97	4.82
Electrical circuit	**Indoor unit Service Ref.**		**PCH-2GKA-E**		**PCH-2.5GKA-E**		**PCH-3GKA-E**		**PCH-4GKSA-E**		**PCH-5GKSA-E**		**PCH-6GKSA-E**	
	Phase, Hz		1, 50		1, 50		1, 50		1, 50		1, 50		1, 50	
	Volts	V	240		240		240		240		240		240	
	Amperes	A	0.43	0.43	0.55	0.55	0.55	0.55	0.70	0.70	1.06	1.06	1.06	1.06
	Outdoor unit Service Ref.		**PUH-2VKA2.UK**		**PUH-2.5VKA2.UK**		**PUH-3VKA2.UK** **PUH-3YKA2.UK**		**PUH-4YKSA2.UK**		**PUH-5YKSA2.UK**		**PUH-6YKSA2.UK**	
	Phase, Hz		1, 50		1, 50		1/3, 50		3, 50		3, 50		3, 50	
	Volts	V	240		240		240 / 415		415		415		415	
	Amperes	A	9.86	9.95	10.68	9.78	13.82/ 5.16	12.89/ 4.81	5.24	5.22	6.89	6.81	7.74	7.50
Refrigerant circuit	Discharge pressure	Mpa·G(kg/cm²·G)	1.92 (19.6)	1.90 (19.4)	2.05 (20.9)	1.73 (17.6)	2.04 (20.8)	1.94 (19.8)	1.83 (18.7)	1.72 (17.5)	1.92 (19.6)	1.78 (18.1)	1.97 (20.1)	1.80 (18.4)
	Suction pressure	Mpa·G(kg/cm²·G)	0.47 (4.8)	0.37 (3.77)	0.53 (5.4)	0.38 (3.87)	0.43 (4.39)	0.36 (3.67)	0.50 (5.1)	0.39 (3.98)	0.48 (4.90)	0.37 (3.77)	0.45 (4.59)	0.38 (3.88)
	Discharge temperature	°C	87	89	85	77	87	83	78	75	75	70	74	69
	Condensing temperature	°C	50	—	53	—	53	—	48	—	50	—	51	—
	Suction temperature	°C	3.8	-2.7	6.9	-2.1	1.6	-2.9	6.7	-1.0	4.4	-2.8	2.6	-1.8
	Ref. pipe length	m	5	5	5	5	5	5	5	5	5	5	5	5
Indoor side	Intake air temperature	°C DB	27	20	27	20	27	20	27	20	27	20	27	20
		°C WB	19	15	19	15	19	15	19	15	19	15	19	15
	Discharge air temperature	°C DB	11.5	44.8	12.4	40.4	11.1	44.8	11.1	42.1	12.4	42.4	10.0	44.9
Outdoor side	Intake air temperature	°C DB	35	7	35	7	35	7	35	7	35	7	35	7
		°C WB	24	6	24	6	24	6	24	6	24	6	24	6
SHF			0.68	—	0.69	—	0.66	—	0.68	—	0.73	—	0.65	—
BF			0.11	—	0.14	—	0.15	—	0.12	—	0.07	—	0.14	—

The unit of pressure has been changed to Mpa on the international system of unit (SI unit system).
The converted score against the traditional unit system can be gotten according to the formula below.
1(Mpa·G)=10.2(kg/cm²·G)

5. NOISE CRITERION CURVES

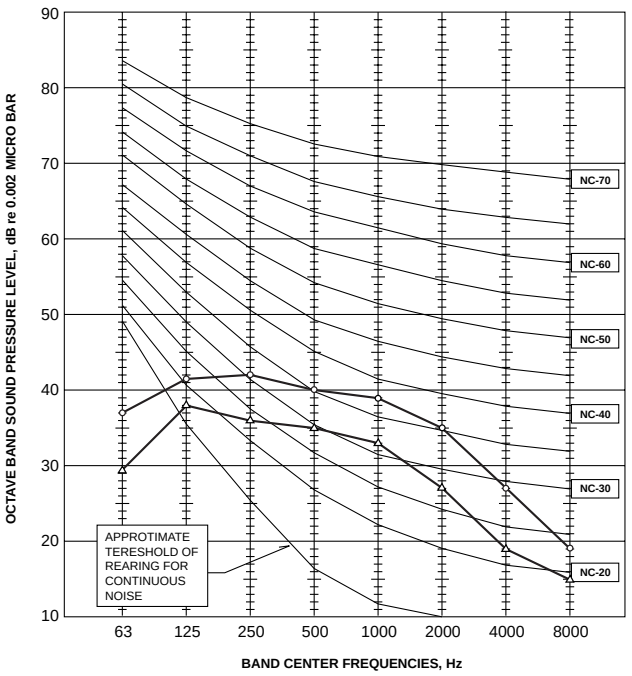
PCH-2GKA

NOTCH	SPL(db(A))	LINE
Hi	42	○——○
Lo	37	△——△



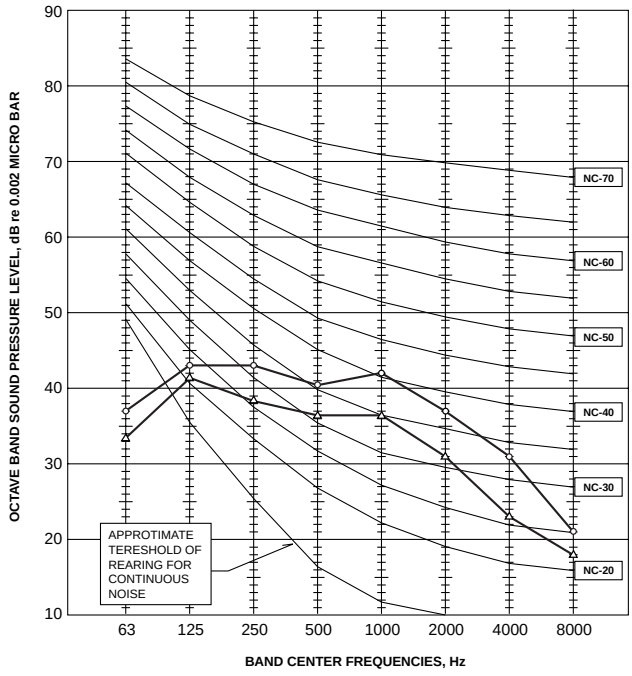
PCH-2.5GKA
PCH-3GKA

NOTCH	SPL(db(A))	LINE
Hi	43	○——○
Lo	37	△——△



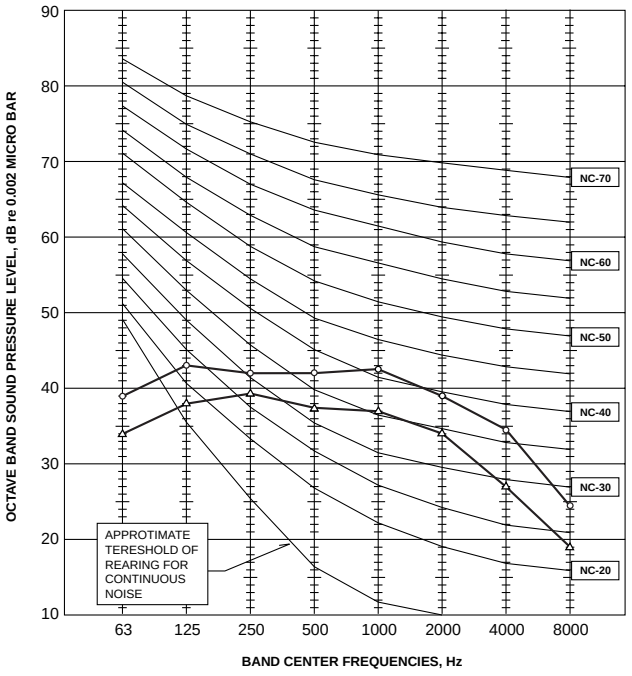
PCH-4GKSA

NOTCH	SPL(db(A))	LINE
Hi	45	○——○
Lo	40	△——△



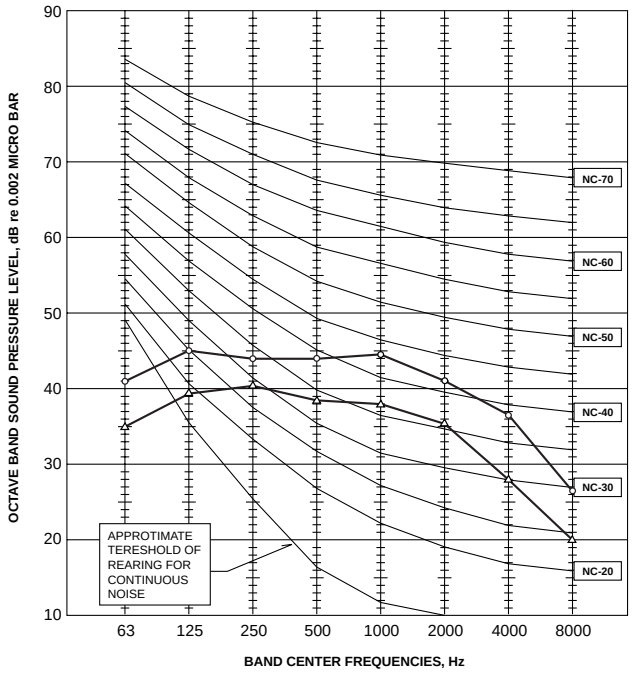
PCH-5GKSA

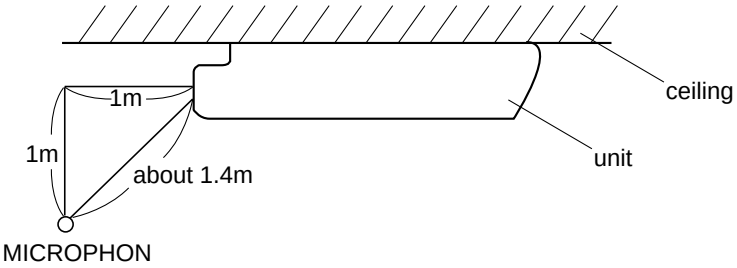
NOTCH	SPL(db(A))	LINE
Hi	46	○——○
Lo	41	△——△



PCH-6GKSA

NOTCH	SPL(db(A))	LINE
Hi	48	○——○
Lo	42	△——△



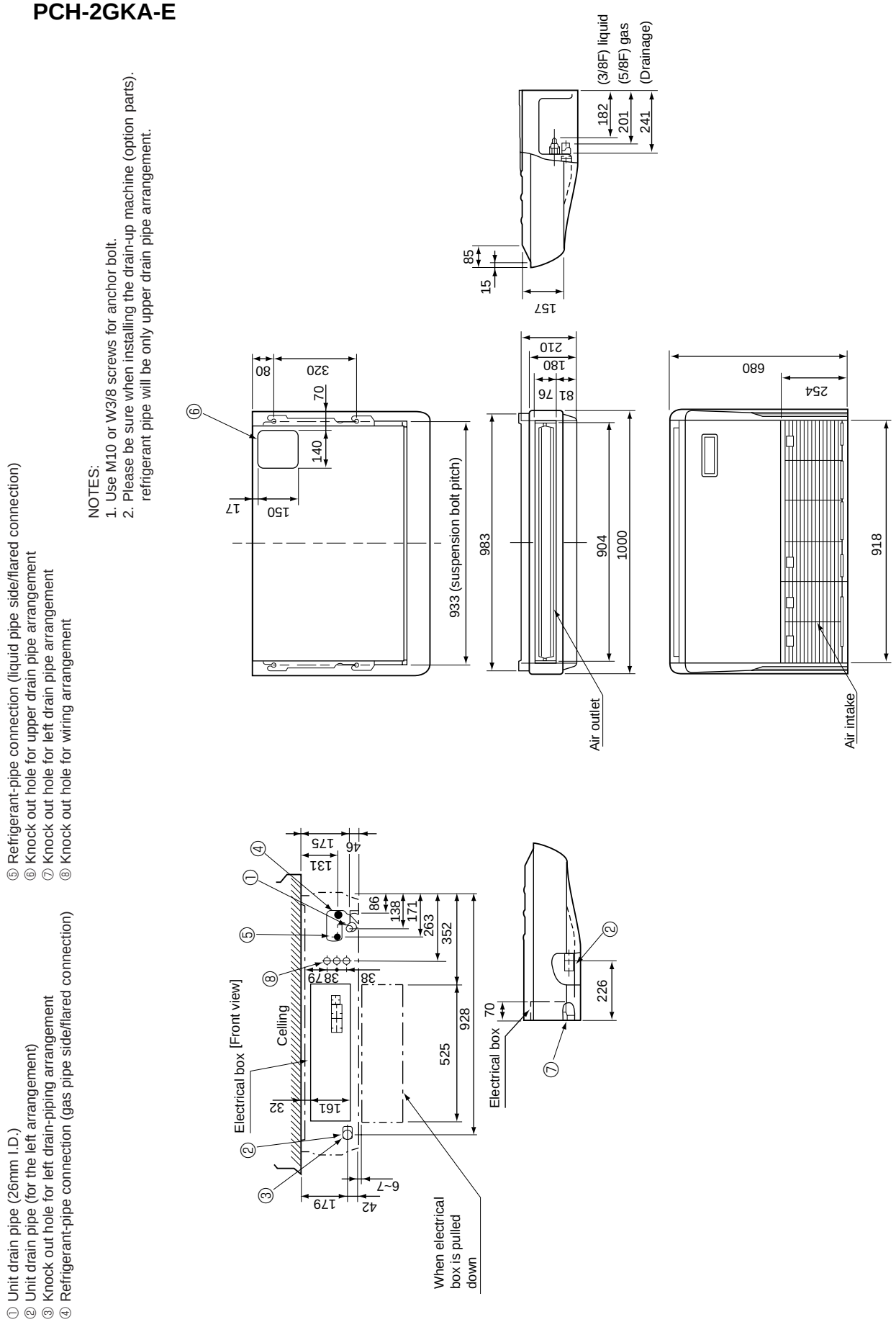


Ambient temperature 27˚C

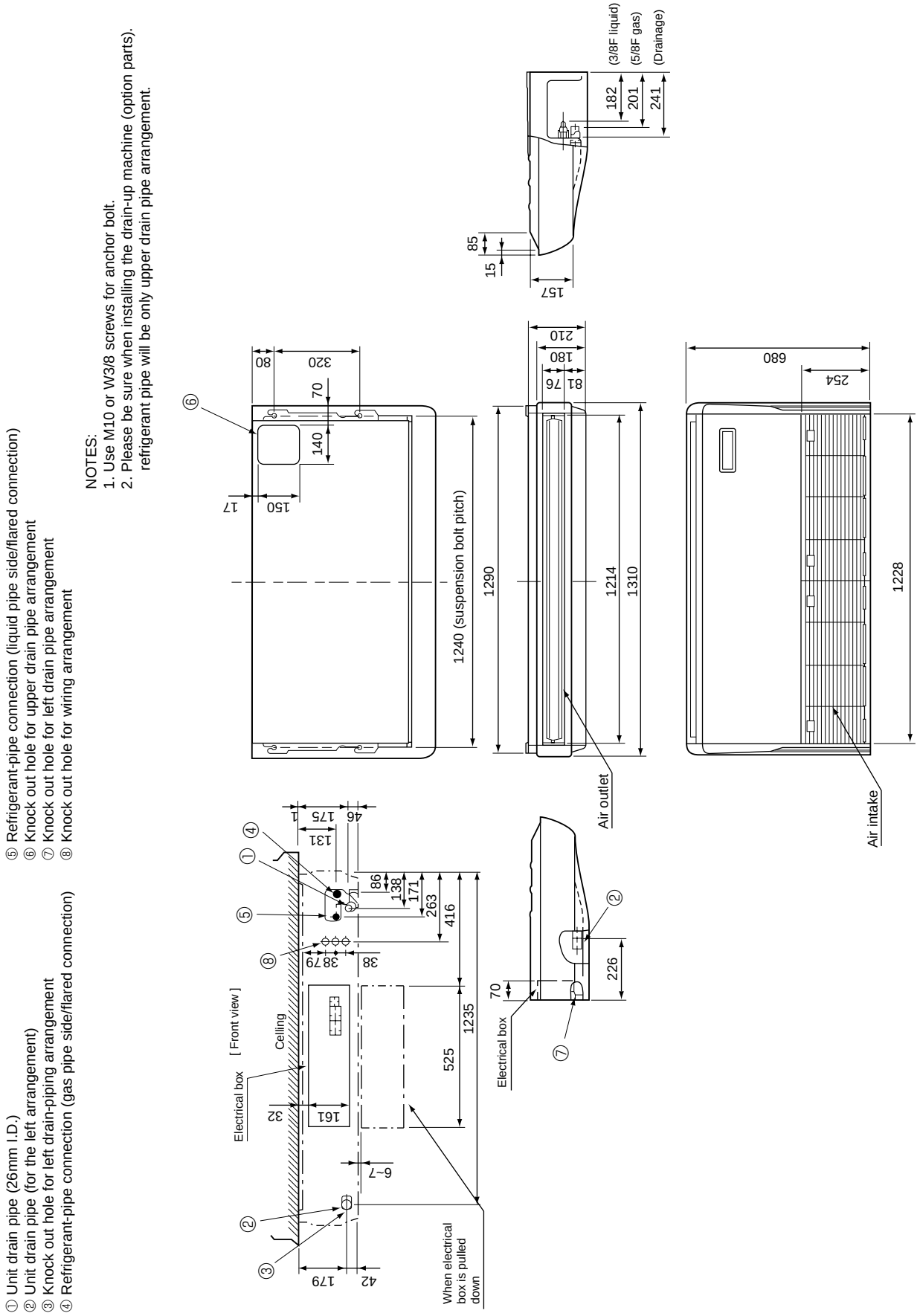
Test conditions are based on JIS Z8731

4 OUTLINES AND DIMENSIONS

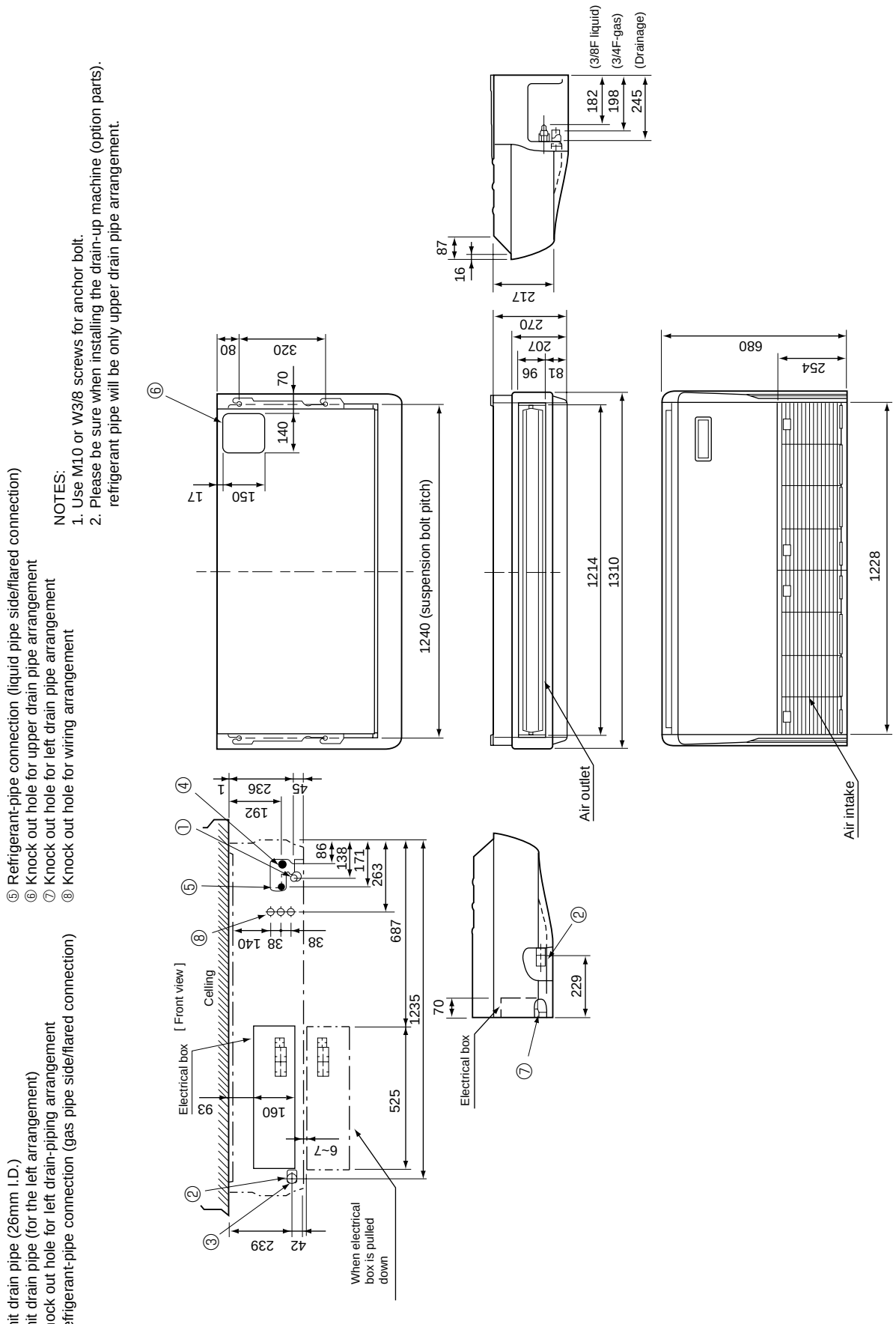
1. INDOOR UNIT
PCH-2GKA-E



PCH-2.5GKA-E
PCH-3GKA-E

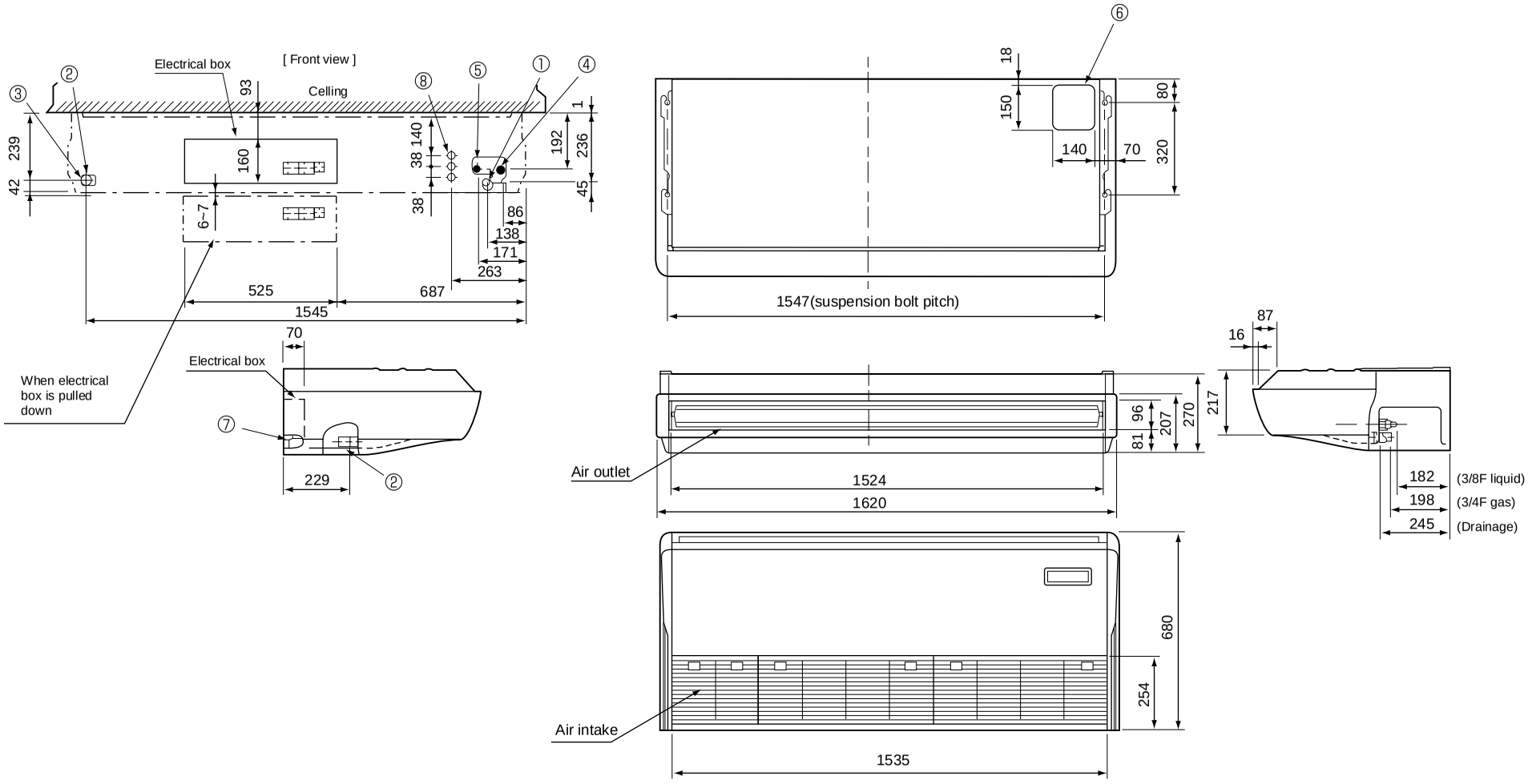


PCH-4GKSA-E


① Unit drain pipe (26mm I.D.)
② Unit drain pipe (for the left arrangement)
③ Knock out hole for left drain-piping arrangement
④ Refrigerant-pipe connection (gas pipe side/flared connection)
⑤ Refrigerant-pipe connection (liquid pipe side/flared connection)
⑥ Knock out hole for upper drain pipe arrangement
⑦ Knock out hole for left drain pipe arrangement
⑧ Knock out hole for wiring arrangement
NOTES:
1. Use M10 or W3/8 screws for anchor bolt.
2. Please be sure when installing the drain-up machine (option parts). refrigerant pipe will be only upper drain pipe arrangement.
(3/8F liquid)
(3/4F-gas)
(Drainage)
182
198
245
87
16
217
270
207
96
81
320
80
70
140
150
17
1240 (suspension bolt pitch)
1214
1310
680
254
1228
Air outlet
Air intake
[Front view]
Ceiling
Electrical box
When electrical box is pulled down
1
236
192
45
86
138
171
263
687
1235
38
140
38
93
160
525
6~7
239
42
70
229

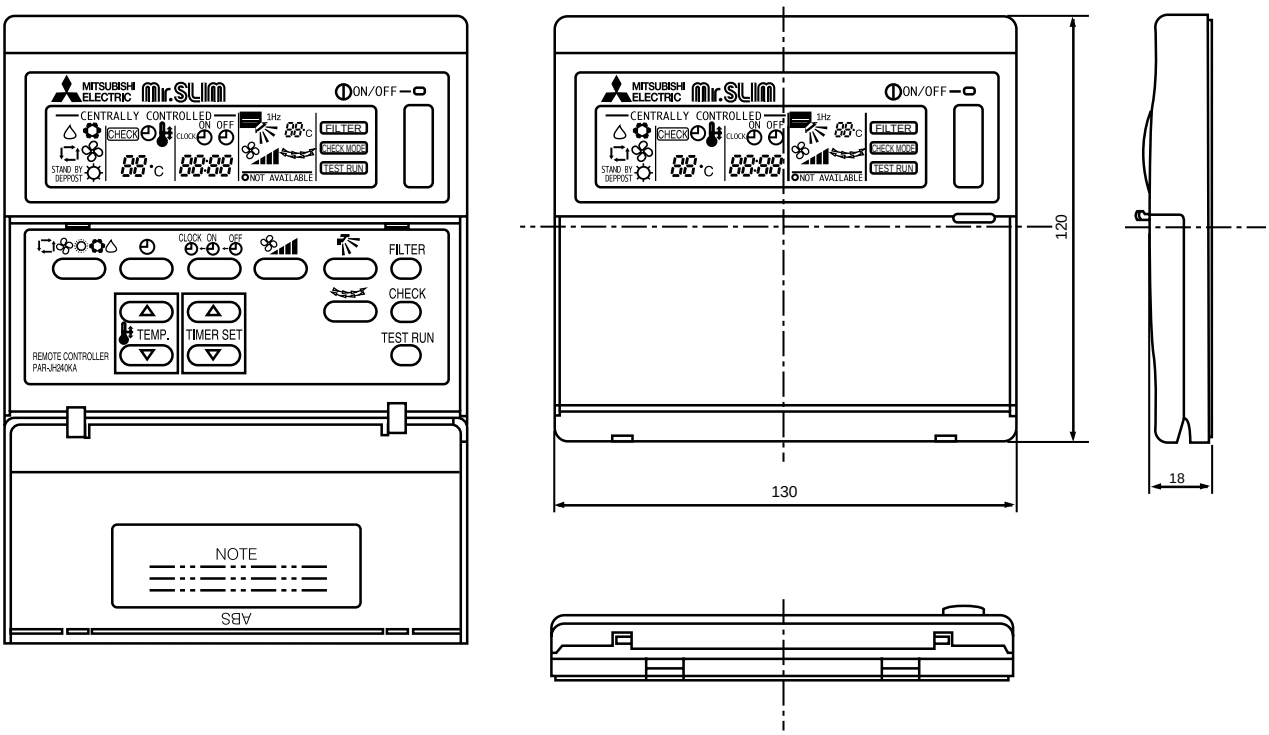
① Unit drain pipe (26mm I.D.)
② Unit drain pipe (for the left arrangement)
③ Knock out hole for left drain-piping arrangement
④ Refrigerant-pipe connection (gas pipe side/flared connection)
⑤ Refrigerant-pipe connection (liquid pipe side/flared connection)
⑥ Knock out hole for upper drain pipe arrangement
⑦ Knock out hole for left drain pipe arrangement
⑧ Knock out hole for wiring arrangement

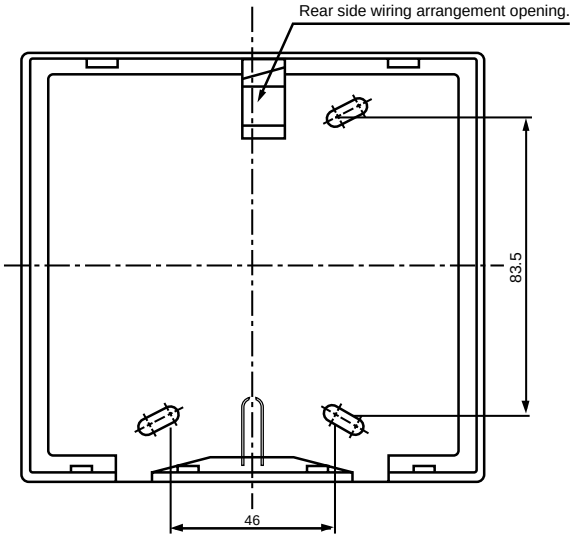
NOTES:
1. Use M10 or W3/8 screws for anchor bolt.
2. Please be sure when installing the drain-up machine (option parts). refrigerant pipe will be only upper drain pipe arrangement.

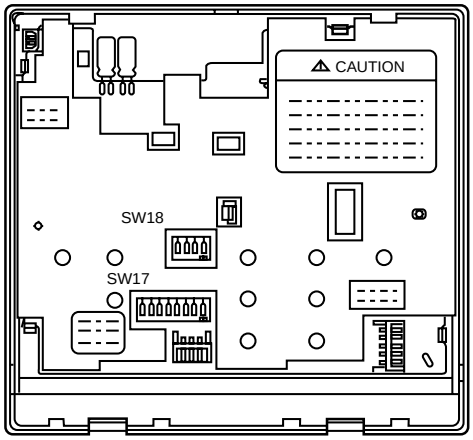


2. REMOTE CONTROLLER

Unit : mm



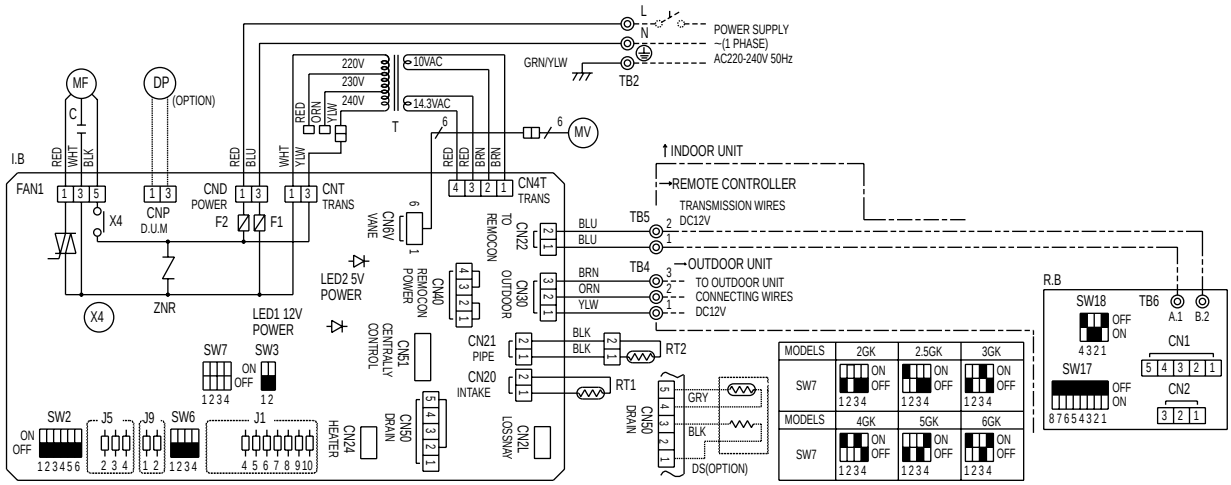




5 WIRING DIAGRAM

PCH-2GKA-E/PCH-2.5GKA-E/PCH-3GKA-E
PCH-4GKSA-E/PCH-5GKSA-E/PCH-6GKSA-E

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C	FAN MOTOR CAPACITOR	LED1<I.B>	DC 12V POWER LED	SW7<I.B>	MODEL SELECTOR
CN1<R.B>	PROGRAM TIMER CONNECTOR	LED2<I.B>	DC 5V POWER LED	SW17<R.B>	ADDRESS SELECTOR
CN2<R.B>	REMOTE SWITCH CONNECTOR	MF	FAN MOTOR	SW17<R.B>	FUNCTION SELECTOR
CN2L<I.B>	LOSSNAY CONNECTOR	MV	VANE MOTOR	T	TRANSFORMER
CNP<I.B>	DRAIN-UP MACHINE CONNECTOR	R.B	REMOTE CONTROLLER BOARD	TB2	TERMINAL BLOCK (POWER SUPPLY)
CN50<I.B>	DRAIN SENSOR CONNECTOR	RT1	ROOM TEMPERATURE THERMISTOR	TB4	TERMINAL BLOCK (INDOOR / OUTDOOR CONNECTING WIRE)
CN51<I.B>	CENTRALLY CONTROL CONNECTOR		(0℃/15kΩ, 25℃/5.4kΩ DETECT)	TB5	TERMINAL BLOCK (REMOTE CONTROLLER)
F1,2<I.B>	FUSE (6.3A 250V)	RT2	INDOOR COIL THERMISTOR	TB6	LINE TRANSMISSION TERMINAL BLOCK
I.B	INDOOR CONTROLLER BOARD		(0℃/15kΩ, 25℃/5.4kΩ DETECT)	X4<I.B>	FAN MOTOR RELAY
J1<I.B>	FUNCTION SELECTOR JUMPER RESISTORS	SW2<I.B>	ADDRESS SELECTOR	ZNR	VARISTOR
J5<I.B>	MODEL SELECTOR JUMPER RESISTORS	SW3<I.B>	EMERGENCY OPERATION SWITCH	DP	OPTION DRAIN-UP MACHINE
J9<I.B>	MODEL SELECTOR JUMPER RESISTORS	SW6<I.B>	MODEL SELECTOR	DS	OPTION DRAIN-UP SENSOR

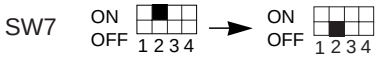


[Emergency operation procedure]
(1) Turn on the outdoor unit side circuit breaker, then indoor unit side circuit breaker in this order.
(2) During emergency operation indoor fan runs at high speed but automatic vane remains stop.
(3) If vane closed, open the vane by hand slowly.
(4) Thermostat will not function. Cold air blows out for defrosting during heating thus do not operate defrosting for a long time.
(5) Emergency cooling should be limited to 10 hours maximum.
(The indoor unit heat exchanger may freeze).
(6) If the microcomputer doctor detects the abnormality of the drain-up machine during cooling mode, do not execute emergency operation.(If causes drain overflow)

NOTES :

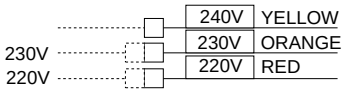
1. Since the indoor fan motor (MF) is connected with 230~240V power. If 220V power is used. Change the dip switch (SW<I.B>)on the indoor controller board showing fig:※1.

fig:※1 Indoor fan motor (MF) for 220V



2. Since the indoor transformer (T)is connected with 240V power. If 220.230V power is used. Change the wiring connection showing fig:※2.

fig:※2 When power supply is



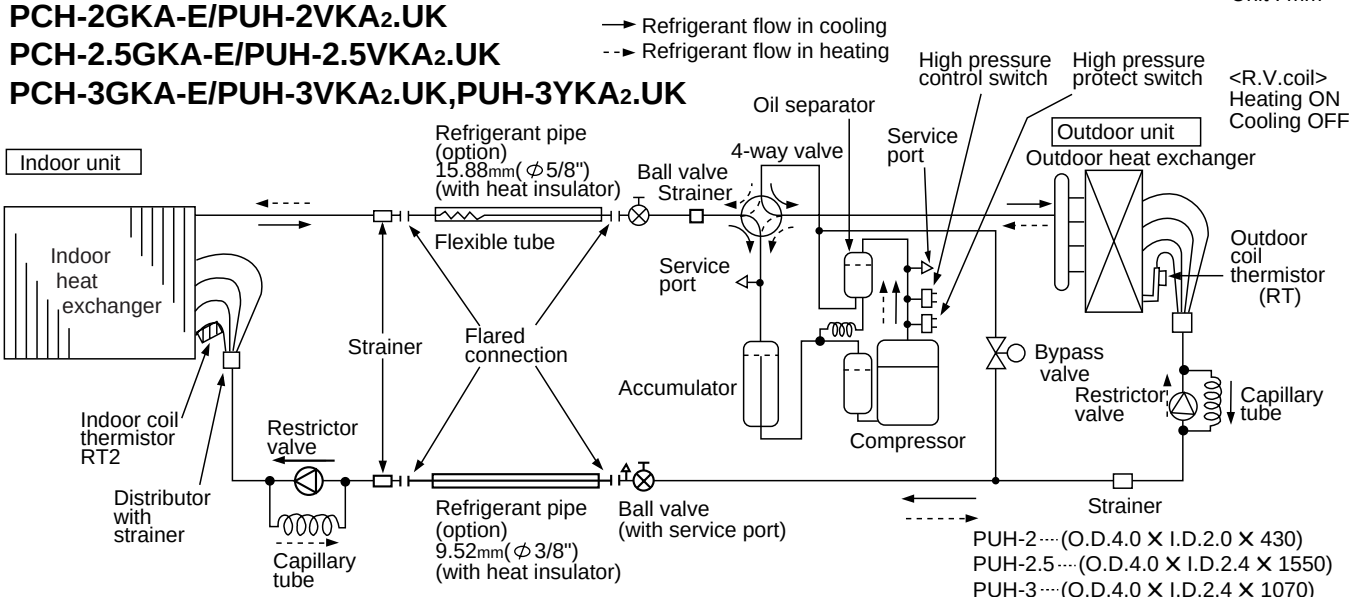
3. Since the outdoor side electric wiring may change be sure to check the outdoor unit electric wiring for servicing.
4. Indoor and outdoor connecting wires are made with polarities. make wiring matching terminal numbers.
5. Symbols used in wiring diagram above are.
□□□: Connector, ◎ : Terminal block.
6. Emergency operation
If remote controller or microcomputer fails but there is no other trouble. emergency operation is possible by setting dip switch (SW3<I.B>) on the indoor controller board.

[Check items]
(1)Make sure that no other trouble exist the outdoor unit. Trouble with the outdoor unit prevents emergency operation.
(If any trouble exists the outdoor unit error code “P8”will be displayed on the remote controller and the trouble position will be shown on the outdoor controller LED. See electric wiring diagram of the outdoor unit for details.)
(2)Make sure that there is no trouble with the indoor fan.
Emergency operation will be continuous operation mode due to power ON/OFF (ON/OFF with the remote controller is not possible).
[Emergency operation procedure]
(1)Set the dip switch (SW3<I.B>) on the indoor controller board to 1 on and 2 off for cooling and 1 - 2 on for heating.

6 REFRIGERANT SYSTEM DIAGRAM

Unit : mm

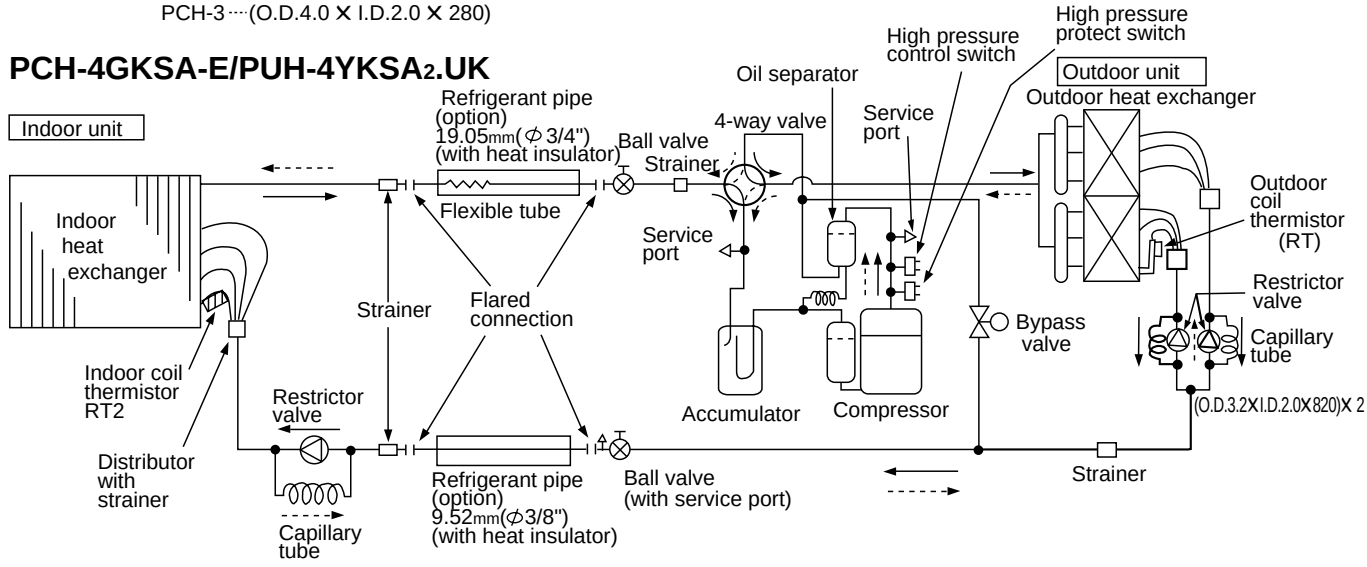
PCH-2GKA-E/PUH-2VKA2.UK
PCH-2.5GKA-E/PUH-2.5VKA2.UK
PCH-3GKA-E/PUH-3VKA2.UK,PUH-3YKA2.UK



PCH-2····(O.D.3.2 × I.D.1.6 × 230)
PCH-2.5····(O.D.3.2 × I.D.1.8 × 430)
PCH-3····(O.D.4.0 × I.D.2.0 × 280)

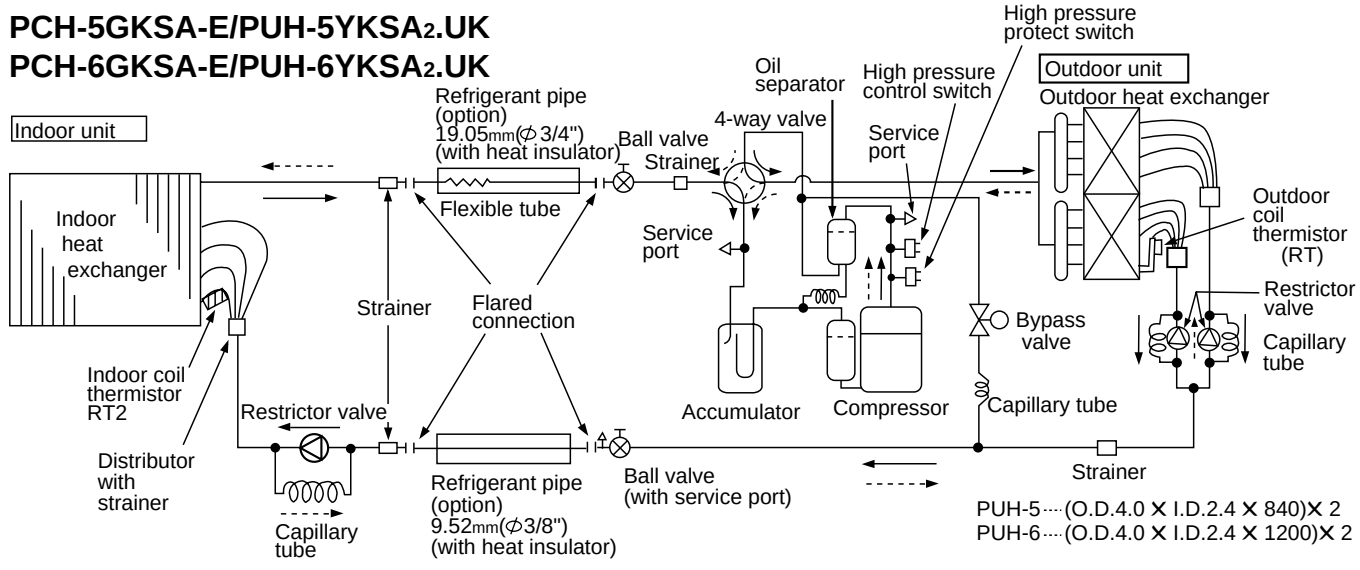
PUH-2····(O.D.4.0 × I.D.2.0 × 430)
PUH-2.5····(O.D.4.0 × I.D.2.4 × 1550)
PUH-3····(O.D.4.0 × I.D.2.4 × 1070)

PCH-4GKSA-E/PUH-4YKSA2.UK



(O.D.4.0 × I.D.2.0 × 350)

PCH-5GKSA-E/PUH-5YKSA2.UK
PCH-6GKSA-E/PUH-6YKSA2.UK

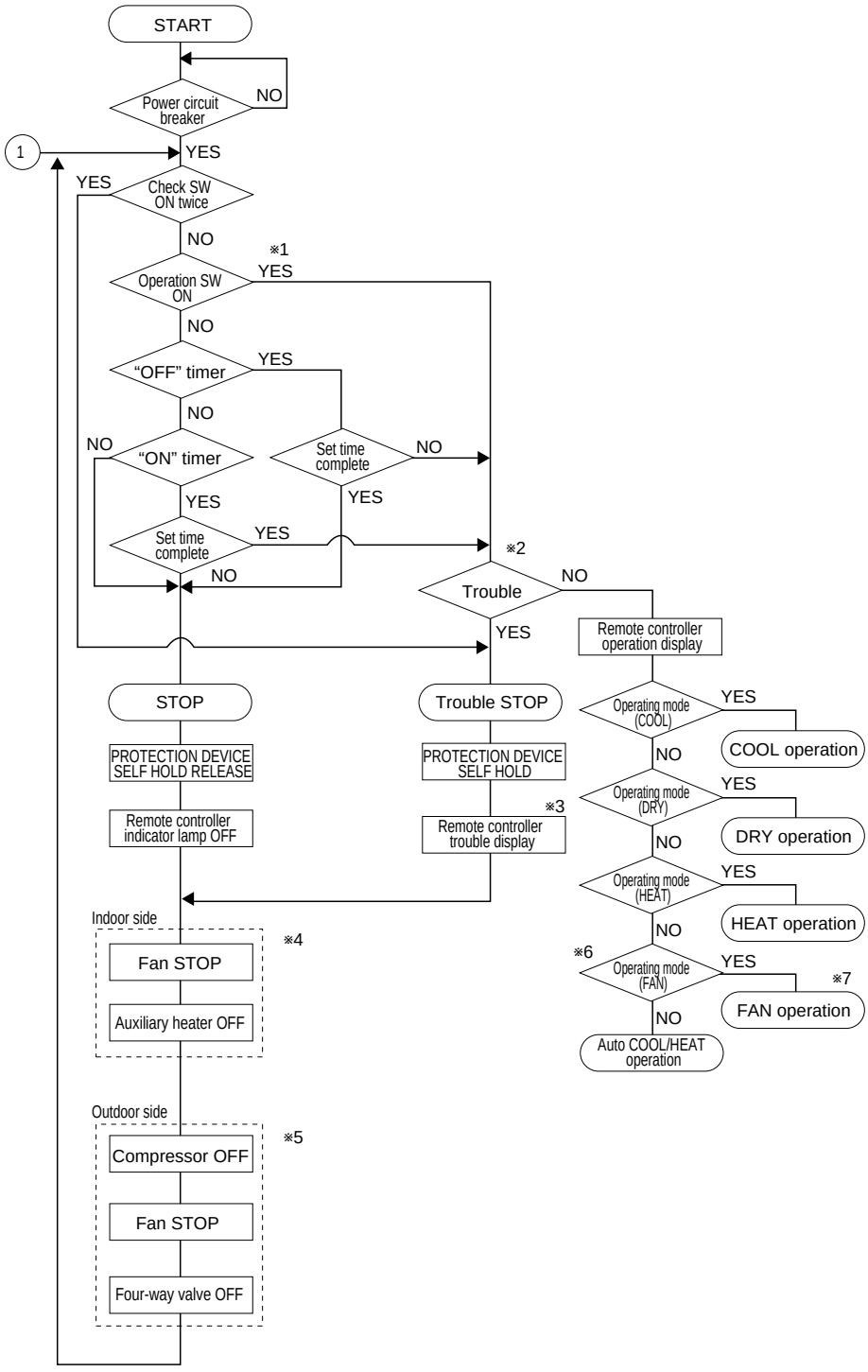


PCH-5····(O.D.4.0 × I.D.2.4 × 270)
PCH-6····(O.D.4.0 × I.D.3.0 × 300)

PUH-5····(O.D.4.0 × I.D.2.4 × 840)× 2
PUH-6····(O.D.4.0 × I.D.2.4 × 1200)× 2

7 OPERATION FLOW-CHART

MAIN OPERATION

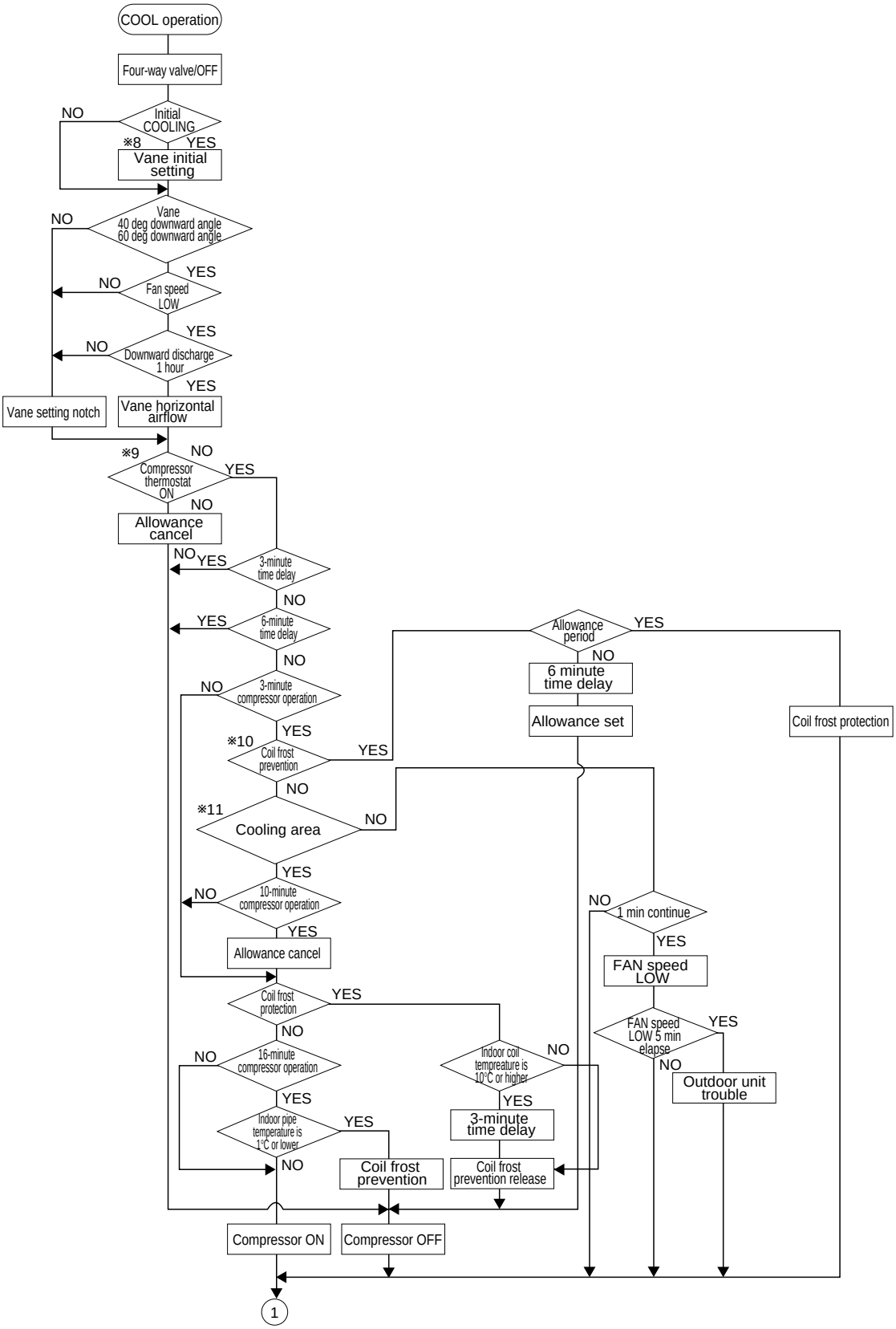


※1 In addition, the centralized control and remote control can be operated.
※2 The modes which indicate the sources of trouble are listed below.

- EO-Signal transmitting/receiving error
- P1-Room temperature thermistor malfunction
- P2-Indoor coil thermistor malfunction
- P4-Drain sensor malfunction
- P5-Drain overflow
- P6-Coil frost/overheat protection
- P7-System error
- P8-Outdoor unit trouble

※3 The CHECK switch will show if an error has occurred in the past.
※4 Fan runs on low speed for 1 minute in order to remove overheat air.
※5 The 3-minute (6 minutes ··· heating mode) time-delay functions after compressor stops.
※6 FAN or AUTO mode is selected by the indoor dip switch setting.
※7 In FAN mode, fan speed and vane operation depend on the remote controller setting. (Compressor is OFF.)

COOLING OPERATION



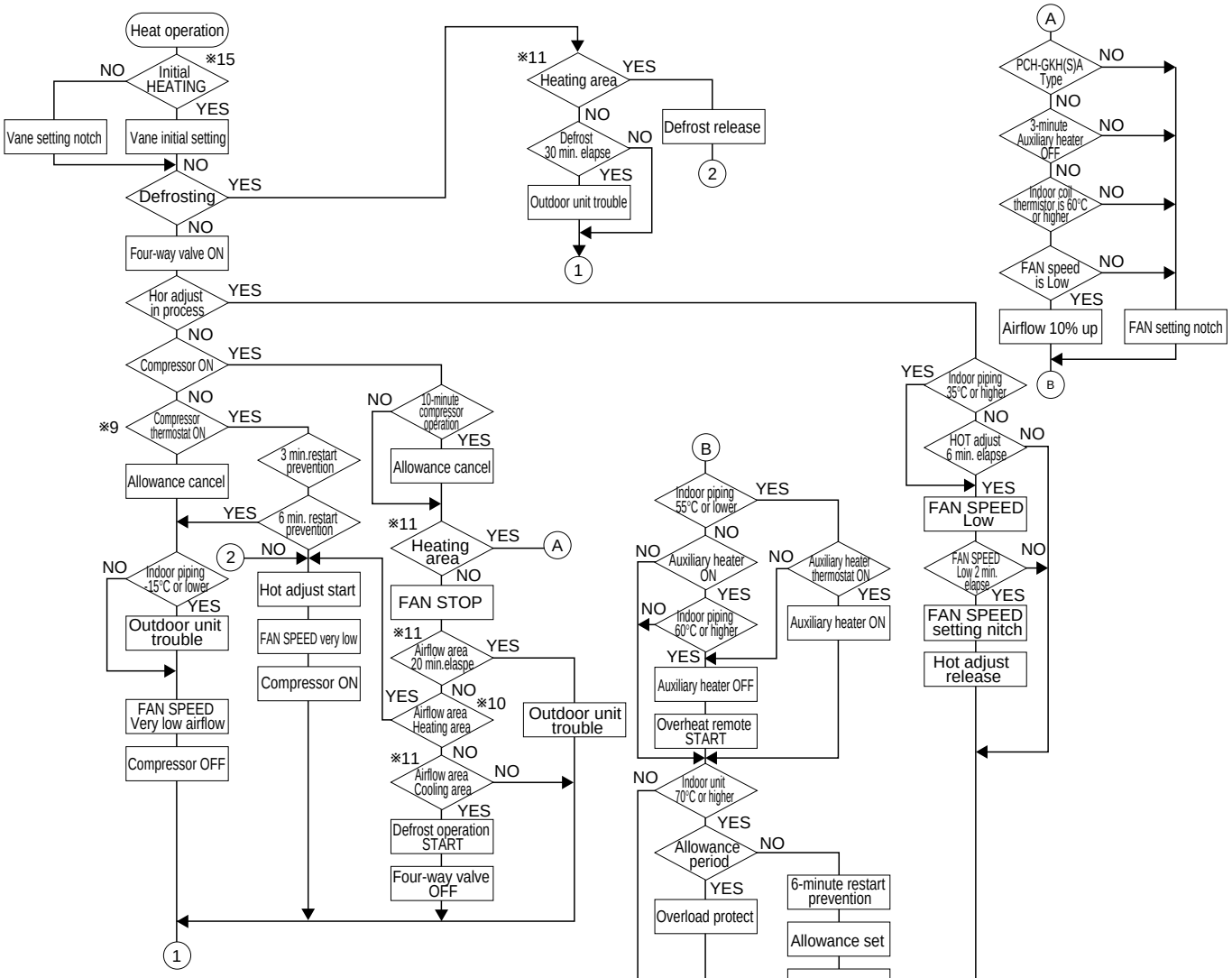
※8 When operation stops or changes to cooling or dry mode, the auto vane turns to a horizontal angle. If operation changes during auto vane SWING, the auto vane will continue to swing.

※9 When operating TEST RUN, the thermostat will be continuously ON.

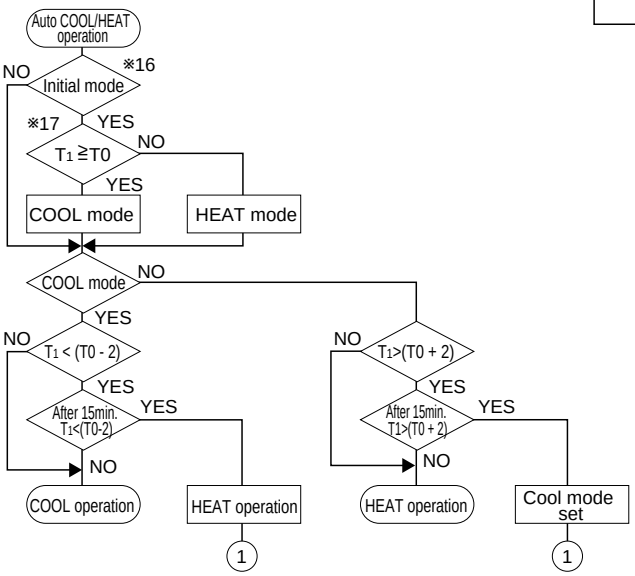
※10 After 3 minute compressor operation, if the indoor coil thermistor reads -15°C or below for 3 minutes, the compressor will stop for 6 minutes.

※11 Cooling area : Indoor coil temperature is more than 5 degrees above the room temperature.
Heating area : Indoor coil temperature is more than 5 degrees below the room temperature.
FAN area : Indoor coil temperature is within 5 degrees either way of the room temperature.

HEATING OPERATION

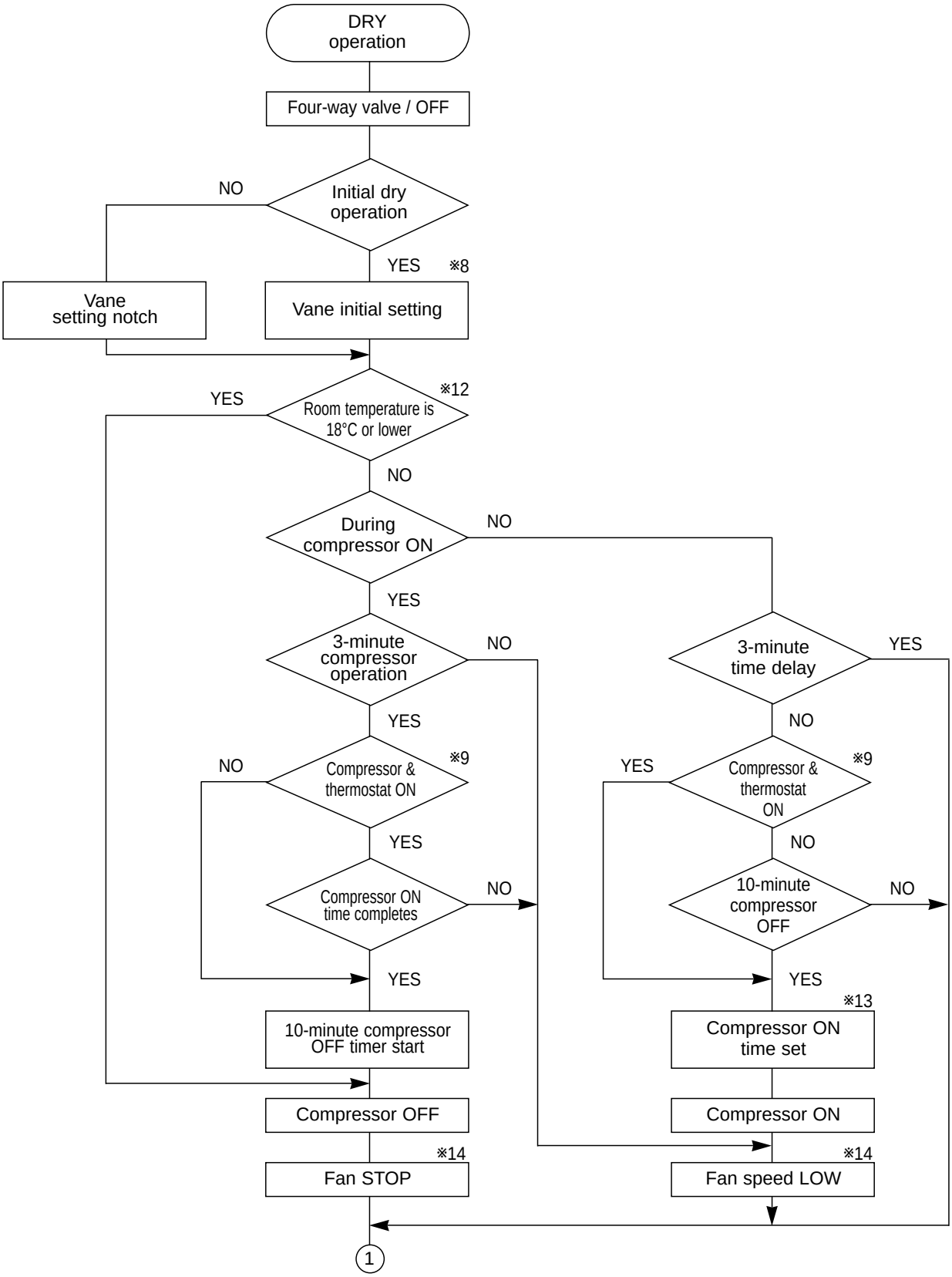


AUTOMATIC COOLING/HEATING OPERATION



※15 (i) Until Low airflow is set while in hot adjustment
(ii)While defrosting (FAN STOP)
(iii)When thermostat is OFF
In the case of(i), (ii) and (iii) above, airflow is horizontal regardless the VANE setting.
※16 When AUTO operation is started, COOL or HEAT mode is selected automatically.
※17 T1 : Room temperature.
To : Set temperature

DRY OPERATION



※8—9 Refer to page 41.

※12 When room temperature is 18°C or below, the compressor cannot operate.
When room temperature rises over 18°C, the compressor starts after a 3-minute time delay.

※13 Compressor ON time is decided by room temperature. Refer to page 41.

※14 In dry operation, compressor ON makes the fan speed LOW and compressor OFF stops the fan.
It is not possible to set the fan speed with the remote controller.

8 MICROPROCESSOR CONTROL

1.OUTLINE OF MICROPROCESSOR CONTROL

INPUT to remote controller

- OFF-ON switching.
- COOL/DRY-AUTO-HEAT selector switching.
- Thermostat setting.
- TIMER mode selector-switching and Timer setting.
- HIGH-LOW fan speed switching.
- AUTO Vane selector (AIR DISCHARGE) switching.
- TEST RUN switching.
- CHECK mode switching. (Self diagnostic trouble shooting)

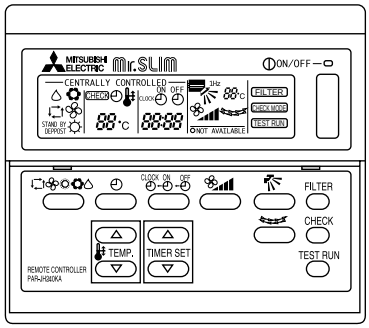
Remote controller board

- Processes and transmits orders.

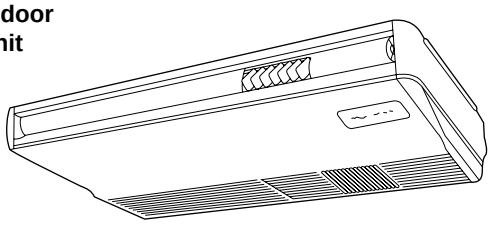
OUTPUT to remote controller

Remote controller

- LCD indicator



Indoor unit



12VDC

Non-polar, two-wire cable maximum length 500 meters

Signal

INPUT from indoor unit

- Room temperature thermistor (RT1)
- Indoor coil thermistor (RT2)
- Drain sensor (OPTION)

Indoor controller board

- Receives orders from remote controller and temperature data from indoor unit.
- Processes orders and data.
- Controls indoor and outdoor operation.
- Self diagnostic function.
- ※ System control operation.
- ※ Emergency operation.
- ※ Set by dip switch on indoor controller board.
- Transmits the power to remote controller.

1 2 3

OUTPUT to indoor unit

- Auto vane's angle setting.
- Drain pump : ON-OFF.
- Emergency stop.

Polar three-wire cable

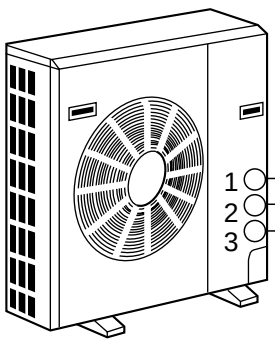
OUTPUT to outdoor unit

- Compressor and outdoor fan : ON-OFF
- Operation mode change :COOL-HEAT.

Independent Control of Outdoor Unit

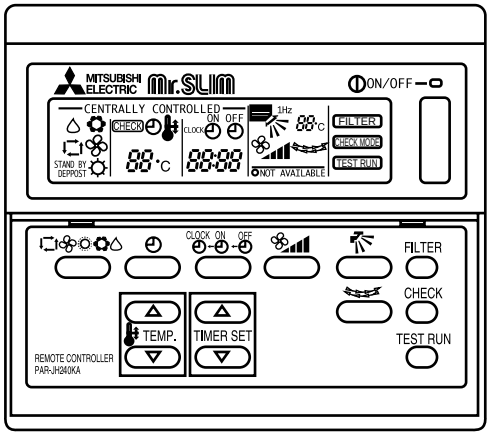
- Compressor protection device working
- Defrosting START-STOP
- Fan speed control.
- Crankcase heater control ON-OFF.
- Self diagnostic function

Outdoor unit



2. INDOOR UNIT CONTROL

2-1COOL operation



<How to operate>

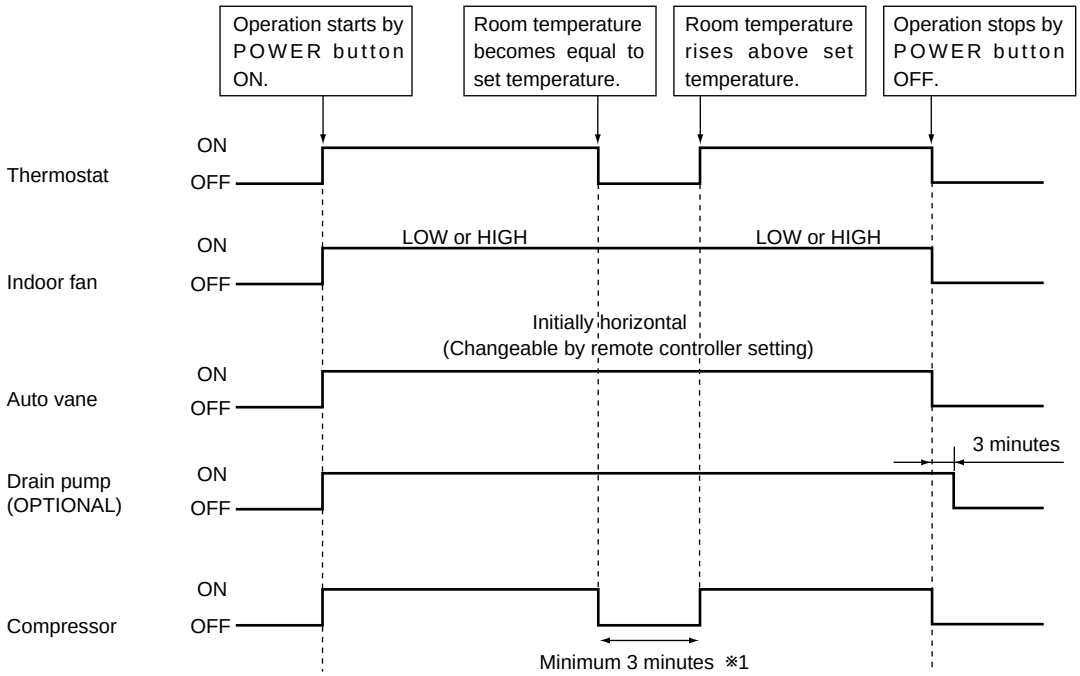
① Press POWER ON/OFF button.

② Press the ⟳ button to display "✿".

③ Press the TEMP. button to set the desired temperature.

NOTE: Set temperature changes 1°C when the △ or ▽ button is pressed one time.
Cooling 19°C to 30°C

<COOL operation time chart>



※1 Even if the room temperature rise above the set temperature during this period, the compressor will not start until this period has ended.

(1) Compressor control

① 3-minute time delay
To prevent overload, the compressor will not start within 3 minutes after stop.

② The compressor runs when room temperature is higher than set temperature.
The compressor stops when room temperature is equal to or lower than the set temperature.

③ The compressor stops in check mode or during protective functions.

④ Coil frost prevention
To prevent indoor coil frost, the compressor will stop when the indoor coil thermistor (RT2) reads 1°C or below after the compressor has been continuously operated for at least 16 minutes or more. When the indoor coil temperature rises to 10°C or above, the compressor will start after a 3-minute time delay.
NOTE : By cut off the J1-5 (Jumper resistance)on indoor controller board, the start temperature of coil frost prevention changes from 1°C to -3°C.

⑤ Coil frost protection

When indoor coil temperature becomes -15°C or below,coil frost protection will proceed as follows.

<Start condition>

After the compressor has been continuously operated for 3 minutes or more,and the indoor coil temperature has been -15°C or below for 3 minutes,the coil frost protection will start.

<Coil frost protection>

Compressor stops for 6 minutes,and then restarts.

If the start condition is satisfied again during the first 10 minutes of compressor operation, both the indoor and outdoor units stop,displaying a check code of"P6"on the remote controller.

<Termination conditions>

Coil frost protection is released when the start condition is not satisfied again during the allowance, or when the COOL mode stops or changes to another mode.

(2) Indoor fan control

Indoor fan speed LOW/HIGH depends on the remote controller setting.

However, if an outdoor unit abnormality is detected, the indoor fan speed will be LOW, regardless of the remote controller setting.

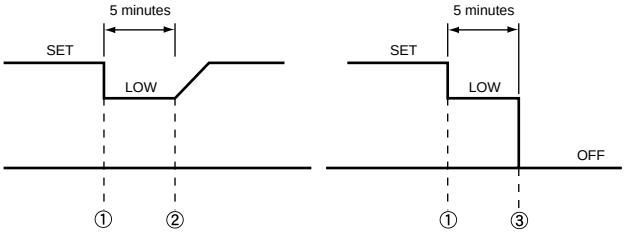
When the outdoor unit abnormality detection is released and the fan speed returns to the set speed, the quiet cycle control will work.

(a) Normal control

(i) Fan speed LOW/HIGH depends on the remote controller setting regardless of the thermostat ON/OFF.

(ii) Fan speed will remain on LOW if an abnormality in outdoor unit is detected. (5 minutes)

When the abnormality detection is released, the fan speed returns to the set speed.



① Start-up of outdoor unit abnormality detection.

② Release of outdoor unit abnormality detection.

③ Unit stop due to outdoor unit abnormality with P8 indication.

NOTE 1 : Fan stops immediately if the unit stops or the check mode is started.

(3) Auto vane control

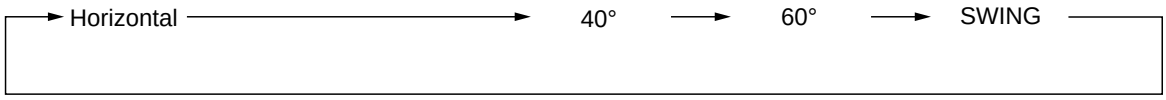
Auto vane position is set to horizontal airflow at the start-up of COOL operation. It can then be changed by the remote controller.

(a) Stop mode (fixed operation)

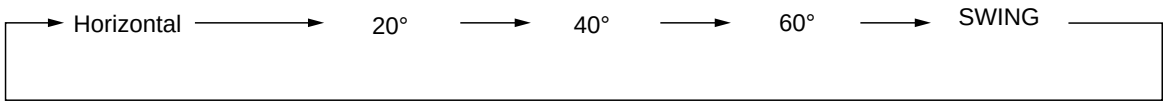
(i) At start-up of COOL operation, the auto vane is set to horizontal airflow direction.

(ii) Discharge direction can be changed with " " button.

① Fan speed : LOW



② Fan speed : HIGH



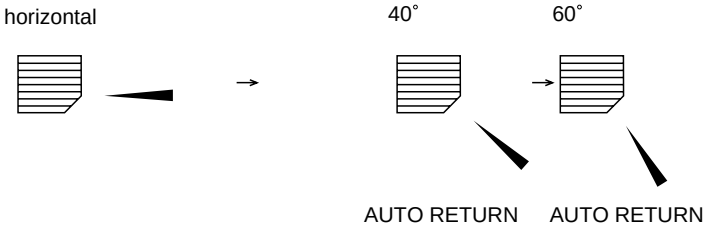
※ Vane angle can be change to upper angle by cutting off the J5-3.(Jumper resistance of indoor units)

(b) SWING mode.

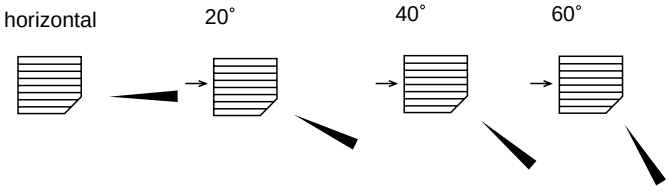
(i) The vane motor turns ON when the SWING mode is selected.
The vane motor is continuously ON during SWING mode.

<AUTO RETURN>

① Fan speed : LOW



② Fan speed : HIGH



When 40° or 60° airflow is selected with the LOW fan speed in COOL operation, “AUTO RETURN” will appear below the temperature display. One hour later, the airflow direction returns to horizontal automatically and “AUTO RETURN” will disappear. If the airflow direction is set to horizontal during “AUTO RETURN” indication, the time counting for AUTO RETURN is cancelled.

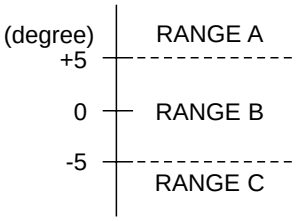
<Auto vane drive>
(a) The auto vane is driven by DC12V motor.
(b) Airflow direction is selected depends on the number of pulse were sent.
(c) Before start driving the auto vane, detect the standard position first, output the number of pulse to each airflow.
(d) The speed of the auto vane drive for both open and close are set at 200 pulse/sec.
(e) Method of driving the auto vane.
① Detecting the standard position :
Output 1448 (PCH-2~3),1498 (PCH-4~6)
② Position setting :
Output the number of pulse indicated no below chart to the closing direction.

	The number of pulse output after directing the standard position	
	PCH-2~3	PCH-4~6
Close	1448	1498
Horizontal	247	318
Downward A	435	511
Downward B	624	693
Downward C	813	817

(4) Detecting abnormalities in the outdoor unit

After the compressor has been continuously operated for 3 minutes, if the difference between the indoor coil temperature and room temperature is out of RANGE C for 1 minute, the indoor fan speed will turn to LOW. Five minutes later, if the difference is still out of RANGE C,the outdoor unit is functioning abnormally. Thus, the compressor stops and check code "P8" appears on remote controller.
RANGE A : Indoor coil temperature is more than 5 degrees above room temperature.
RANGE B : Indoor coil temperature is within 5 degrees either way of room temperature.
RANGE C : Indoor coil temperature is more than 5 degrees below room temperature.

Indoor coil temperature
minus room temperature.



(5) Drain pump control (OPTION)

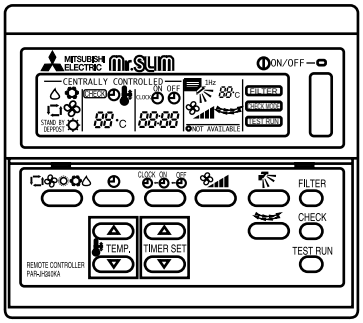
The drain pump works in COOL or DRY operation. When operation stops or changes to HEAT mode, the drain pump continues to operate for 3 more minutes. The drain pump does not work in check mode.

<Drain sensor>

When both the drain pump and unit are operating, the drain sensor detects the temperature. This temperature tells whether the drain water level is above or under the drain sensor. If the drain water level rises above the drain sensor due to a drain pump malfunction, the unit will stop operating in order to prevent drain from overflowing. The check code "P5" on the remote controller will display this occurrence. When either of the following conditions are satisfied, the drain sensor is determined to be under water.

- Though the drain sensor has been heated by the drain sensor heater for more than 40 seconds, its temperature rise is less than 20 degrees.
- The drain sensor temperature is below 63°C.

2-2 DRY operation



<How to operate>

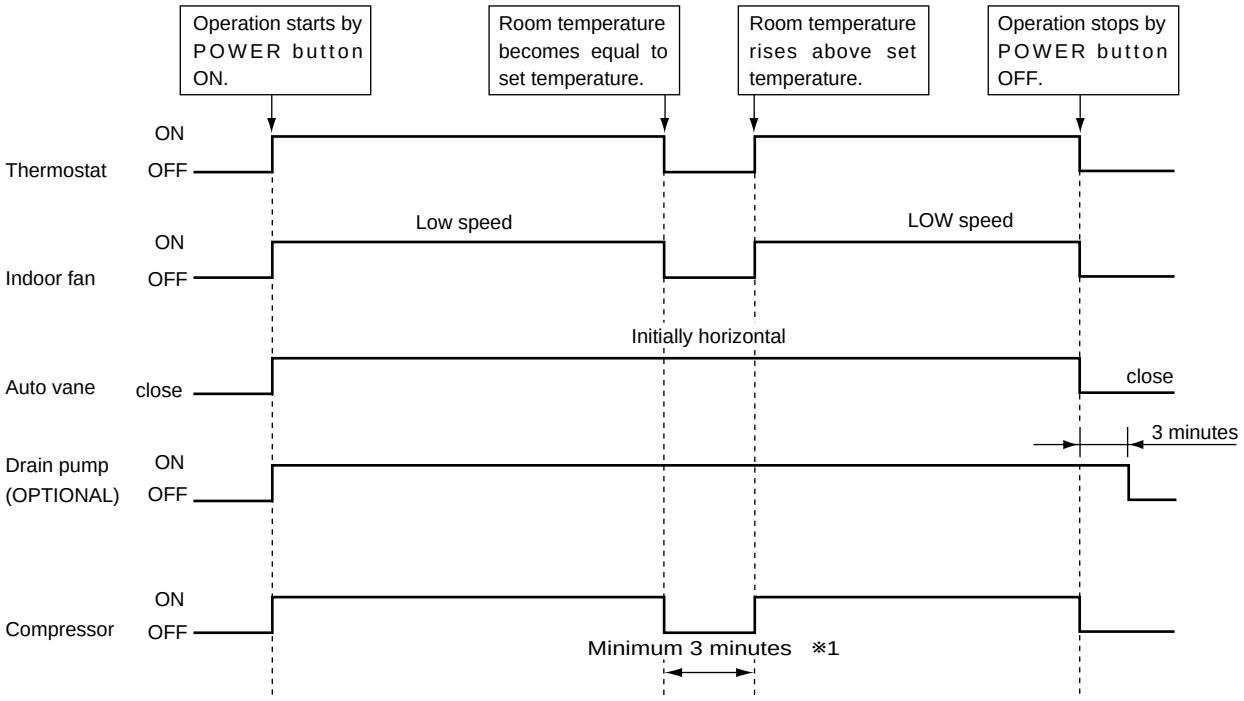
① Press POWER ON/OFF button.

② Press the ⟳❀✺✿♢ button to display " ♢ ".

③ Press the 🌡 TEMP. button to set the desired temperature.

NOTE: The set temperature changes 1°C when the △ or ▽ button is pressed one time.
Dry 19°C to 30°C.

<DRY operation time chart>



※1 Even if the room temperature rises above the set temperature during this period, the compressor will not start until this period has ended.

(1) Compressor control

① 3-minute time delay
To prevent overload, the compressor will not start within 3 minutes after stop.

② The compressor runs when the room temperature is higher than the set temperature.
The compressor stops when the room temperature is equal to or lower than the set temperature.

③ The compressor stops in check mode or during protective functions.

④The compressor will not start when the room temperature is below 18℃.
The compressor start intermittent operation when the power is turned ON with room temperature above 18℃. The compressor ON/OFF time depends on the thermostat ON/OFF and the following room temperature.
After 3-minute compressor operation.

- If the room temperature thermistor reads above 28℃ with thermostat ON, the compressor will operate for 6 more minutes and then stop for 3 minutes.
- If the room temperature thermistor reads above 26℃ ~ 28℃ with thermostat ON, the compressor will operate for 4 more minutes and then stop for 3 minutes.
- If the room temperature thermistor reads above 24℃ ~ 26℃ with thermostat ON, the compressor will operate for 2 more minutes and then stop for 3 minutes.
- If the room temperature thermistor reads below 24℃ with thermostat ON, the compressor will stop for 3 minutes.
- If the thermostat is OFF regardless of room temperature, the compressor will stop for 10 minutes.

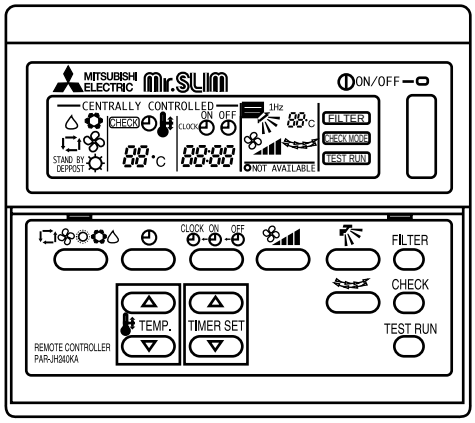
⑤ Coil frost protection
Coil frost protection in DRY operation is the same as in COOL operation.
⑥ Coil frost prevention
Coil frost prevention does not operate in DRY operation.

(2) Indoor fan control
The indoor fan runs on LOW speed during compressor operation. The fan speed cannot be changed with the remote controller. Also, the indoor fan does not run during compressor OFF.

(3) Auto vane & drain pump controls
Same as in COOL operation.

(4) Detecting abnormalities in the outdoor unit
An abnormality in the outdoor unit can not be detected in DRY operation.

2-3 HEAT operation



<How to operate>

① Press POWER ON/OFF button.

② Press the ↻❀✹✿⌂ button to display " ✹ ".

③ Press the 🌡 TEMP. button to set the desired temperature.

NOTE: The set temperature changes 1°C when the △ or ▽ button is pressed one time.

Heating 17°C to 28°C

<Display in HEAT operation>

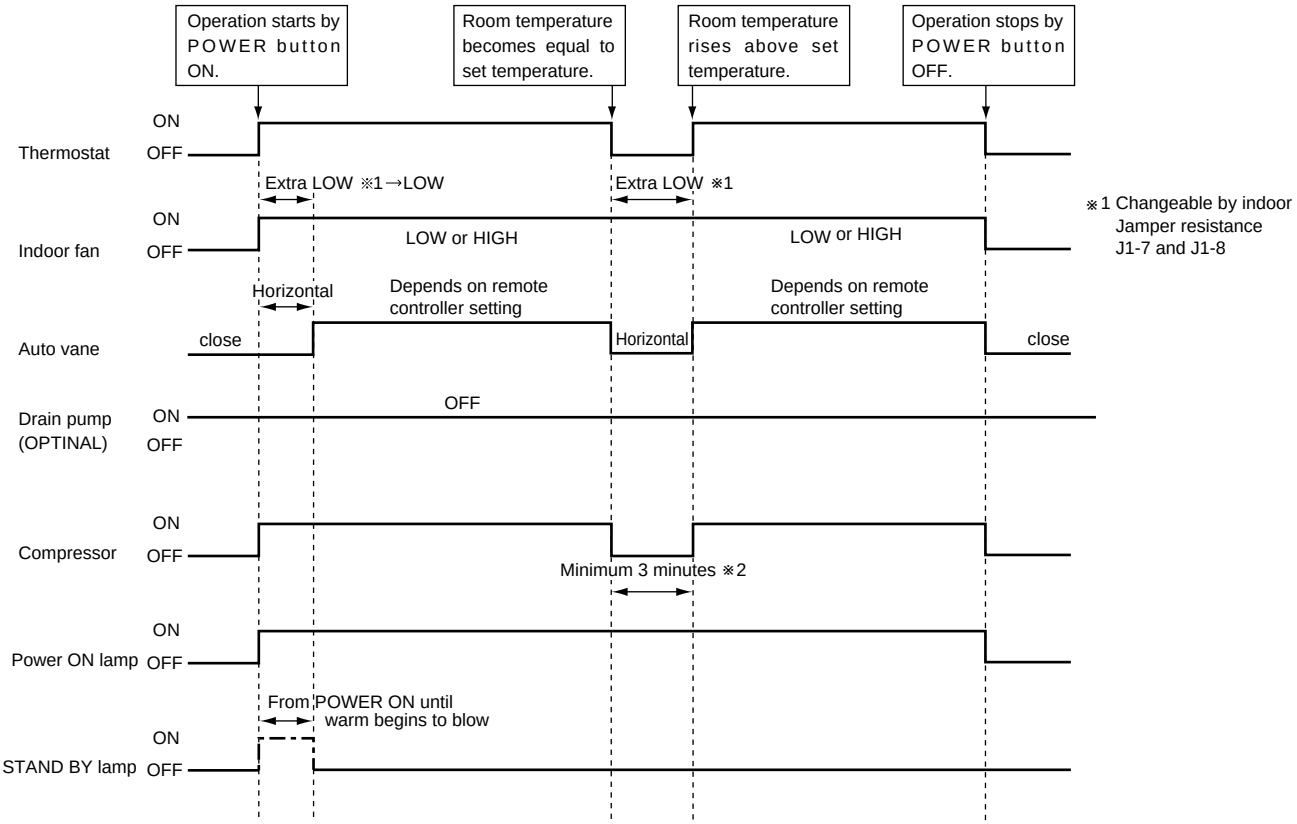
[DEFROST]

The [DEFROST] symbol is only displayed during the defrost operation.

[STANDBY]

The [STANDBY] symbol is displayed from the heating operation starts until the heated air begins to blow.

<HEAT operation time chart>



※2 Even if the room temperature rises above the set temperature during this period, the compressor will not start until this period has ended.

(1) Compressor control

① 3-minute time delay
To prevent overload, the compressor will not start within 3 minutes after stop.

② The compressor runs when the room temperature is higher than the set temperature.
The compressor stops when the room temperature is equal to or lower than the set temperature.

③ The compressor stops in check mode or during protective functions.

④ Overheat protection.

<Start condition>

When the indoor coil thermistor reads 70℃ or above, the overheat protection will start.

<Overheat protection>

The compressor stops for 6 minutes, and then restarts.
If the start condition is satisfied again within 10 minutes of compressor operation, both the indoor and outdoor units stop, displaying a check code of “P6” on the remote controller.

<Termination conditions>

Overheat protection is terminated when the start condition is not satisfied again during the allowance (10-minute compressor operation), when operation mode changes to other mode, or when thermostat turns OFF.

(2) Indoor fan control

(a) Normal control

(i)The indoor fan runs on EXTRA-LOW speed during the thermostat OFF.
EXTRA-LOW speed can be changed to LOW or HIGH speed by setting the Jumper resistance J1 and J1-8. If the indoor coil temperature becomes more than 5 degrees below the room temperature during the thermostat OFF, the indoor fan will stop. After, when the indoor coil temperature becomes within 5 degrees of room temperature, the indoor fan will run on EXTRA-LOW speed.

(ii)Hot adjustment
Hot adjustment is a warm-up for HEAT operation.
<Start conditions>
The hot adjustment works under any of the following conditions.
- HEAT operation starts.
- Defrosting ends.
- Thermostat turns ON.

<Hot adjustment>
Initially, the indoor fan runs on EXTRA-LOW speed. When 5 minutes have passed or the indoor coil temperature exceeds 35℃, the fan speed changes to LOW. Two minutes later, the hot adjustment ends. Then, the fan speed depends on the remote controller setting.

(iii)The indoor fan stops when the indoor coil temperature is within 5 degrees either way of room temperature.

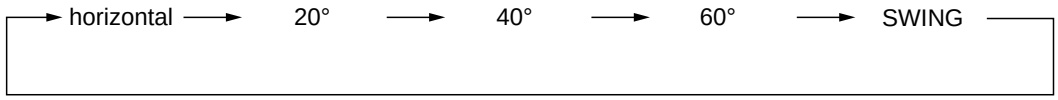
(iv)To eliminate the remaining heat, the indoor fan runs for the first 1 minute after the booster is turned OFF.

(3) Auto vane control

(a) STOP mode (fixed operation)

(i) The airflow direction at the start-up of HEAT operation is the same as that of the previous operation.

(ii) The airflow direction can be charged by the remote controller setting.



In the following cases, airflow direction becomes horizontal regardless of the remote controller setting.

① During the hot adjustment with fan speed at EXTRA-LOW

② During defrosting with indoor fan OFF

③ During the thermostat OFF

(b) SWING mode

(i) The vane motor turns ON when the SWING mode is selected.
The vane motor is continuously ON during SWING mode.

(ii) In the following cases, the airflow direction is horizontal regardless of the remote controller setting.

① During the hot adjustment with fan speed at EXTRA-LOW

② During defrosting with indoor fan OFF

③ During thermostat OFF

(4) Detecting abnormalities in the outdoor unit

When the outdoor unit is determined to be abnormal by the following causes, the compressor will stop and the check code " P8 " will appear on the remote controller display.

① During compressor ON after hot adjustment

[1] If the difference between the indoor coil temperature and room temperature is in the RANGE B, the indoor fan will stop.

[2] Within 20 minutes after entering RANGE B (except for the first 10 seconds),

a) If the temperature difference enters RANGE A, the hot adjustment starts,

b) If the temperature difference is still in RANGE B, the outdoor unit is deemed abnormal.

c) If the temperature difference enters RANGE C, defrosting starts.
Within 20 minutes after entering RANGE C, ※1 (See the next page)

- If the temperature difference does not return to RANGE B,the outdoor unit is deemed abnormal.
- If the temperature difference returns to RANGE B, the next 20 minutes is an allowance period. If the difference enter
  RANGE A during the allowance, defrosting ends and the hot adjustment starts. If the difference does not enter RANGE A during the allowance, the outdoor unit is deemed abnormal.

② During compressor ON in hot adjustment

After 30 minutes of defrosting in hot adjustment, if the temperature difference is still in RANGE C, the outdoor unit is determined to be abnormal.

③ During compressor OFF

After 20 minutes of thermostat OFF, if the indoor coil thermistor reads -25°C or below, the outdoor unit is determined to be abnormal.

(5) Indoor coil thermistor abnormality detection

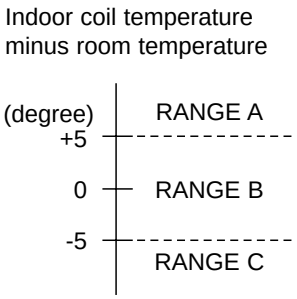
An abnormality can be detected during compressor ON, except for the following.

- For the first 30 minutes after the temperature difference between the indoor coil temperature and room temperature enters the RANGE C.
- When the temperature difference enters the RANGE C until it moves to the RANGE B.

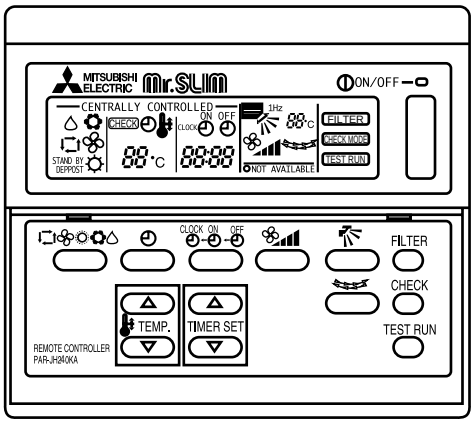
(6) Defrosting operation

After the outdoor unit starts the defrosting operation, when the temperature difference between the indoor coil temperature and room temperature gets out of RANGE A and into RANGE B, the indoor unit starts the defrosting mode. After the outdoor unit stops the defrosting operation, when the temperature difference returns to the RANGE A, the indoor unit stops the defrosting mode. While the indoor unit is in the defrosting mode, the indoor fan stops.

※1 RANGE A : Indoor coil temperature is more than 5 degrees above room temperature.
RANGE B : Indoor coil temperature is within 5 degrees either way of room temperature.
RANGE C : Indoor coil temperature is more than 5 degrees below room temperature



2-4 AUTO operation (Automatic COOL/HEAT change over operation)



<How to operate>

① Press POWER ON/OFF button.

② Press the ↻ button to display "↻"

③ Press the TEMP. button to set the desired temperature.

NOTE: The set temperature changes 1°C when the △ or ▽ button is pressed one time.

Automatic 19 to 28°C

●"AUTOMATIC" works to change by itself the operation mode either to cooling or heating according to the room temperature.

(1) Initial mode

① When AUTO operation starts after unit OFF.

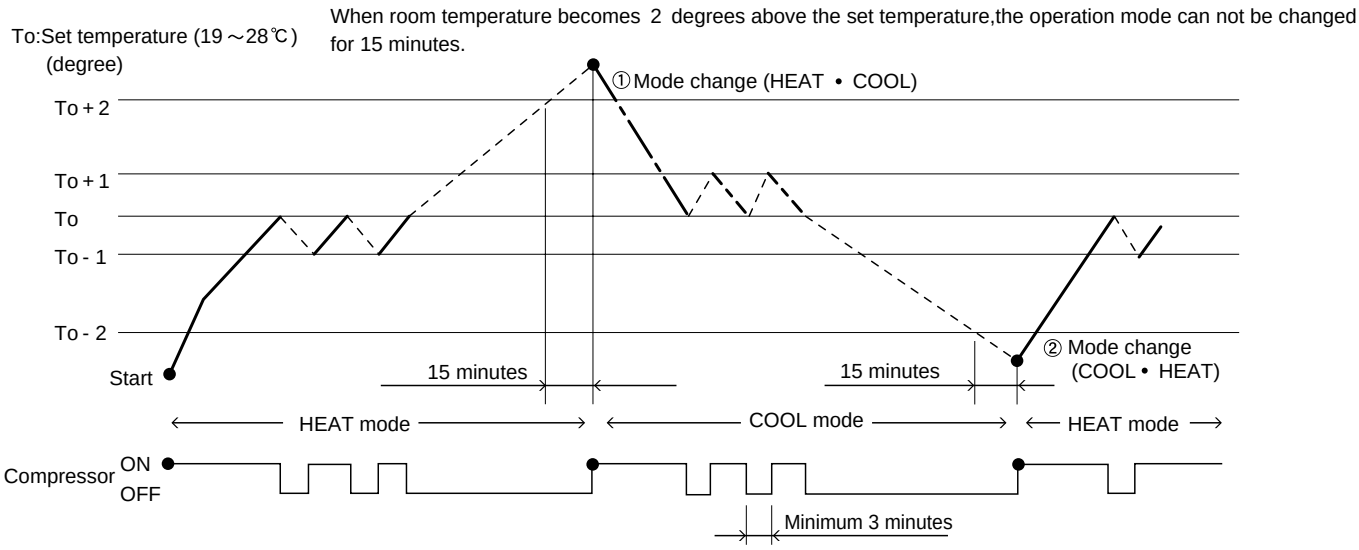
- If the room temperature is higher than the set temperature, operation starts in COOL mode.
- If the room temperature is equal to or lower than the set temperature, operation starts HEAT mode.

② When AUTO operation starts after COOL or HEAT operation, the previous mode continues.

(2) Mode change

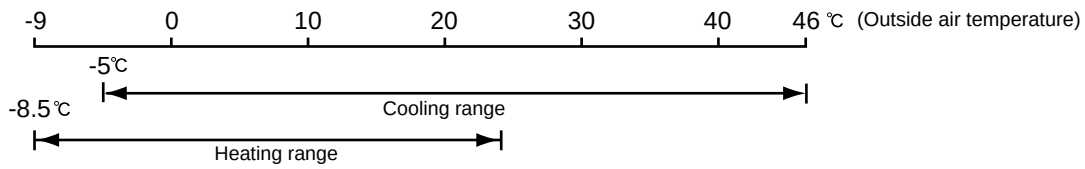
① HEAT mode changes to cool mode when 15 minutes have passed since the room temperature became 2 degrees above the set temperature.

② COOL mode changes to HEAT mode when 15 minutes have passed since the room temperature became 2 degrees below the set temperature.

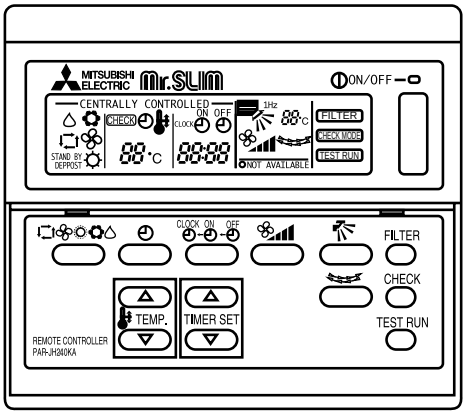


(3) Temperature range

AUTO operation is available under the outside air temperatures as follows.

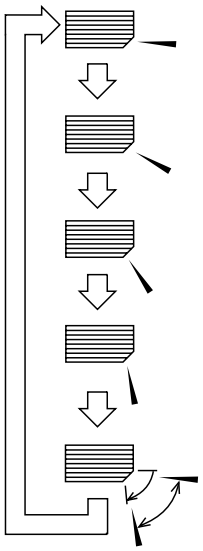


2-5 Auto vane control



<How to operate>
To change the air flow direction, press button.

NOTE: Vane angle can be change to upper angle by cutting off the J5-3.
(Jumper resistance of indoor units)



① Horizontal

② 20˚ ..... Available in COOL operation with fan speed on HIGH or in HEAT operation.
Unavailable in DRY operation.
If fan speed changes from LOW to HIGH during 20° downward airflow in COOL mode, the direction automatically changes to horizontal.

③ 40˚

④ 60˚

⑤ swing

Changes by pressing the button.

(1) COOL/DRY operation

At the start-up of COOL or DRY operation, the airflow direction in automatically set to horizontal. After, it can be changed to another direction with button on the remote controller.

<Auto return>

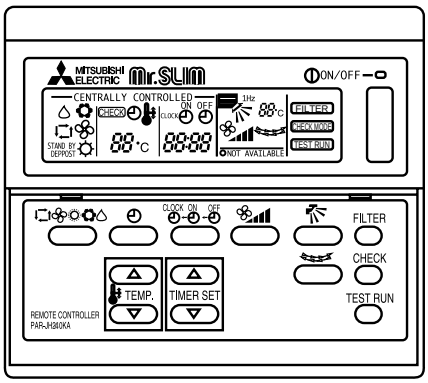
When 40° or 60° airflow is set with fan speed in LOW, “AUTO RETURN” appears below the room temperature display. One hour later the direction changes to horizontal degrees, automatically and “AUTO RETURN” disappears.

(2) HEAT operation

At the start-up of HEAT operation, airflow direction depends on the setting of the last operation.
After, it can be changed to another direction with button. The airflow direction shifts to horizontal regardless of the remote controller settings under any of the following conditions.

- Thermostat OFF
- Defrosting
- Indoor fan speed EXTRA-LOW in hot adjustment

2-6 TIMER operation



<Timer function>

AUTO STOP ·····The air conditioner stops after the set time lapses.
AUTO START ·····The air conditioner starts after the set time lapses.
TIMER OFF ·····Timer is not active.

<How to operate>

1. Press POWER ON/OFF button.
2. Press "◴" button to select AUTO STOP or AUTO START.
3. Press "CLOCK ON ◴ OFF" button to set desired time.
   Time setting is in 1 hour units for up to 24 hours.
   Each time HOURS button is pressed, set time increases by 1 hour.
   When HOURS button is pressed and held, the set time increases by 1 hour every 0.5 seconds.
4. To cancel the timer operation, press POWER ON/OFF button.

<Timer setting example>

This setting will stop the air conditioner in 8 hours.
With the lapse of time, time display changes in 1 hour units, showing remaining time.

2-7 Test run

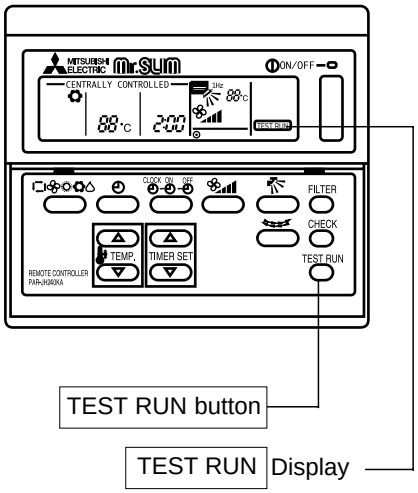
<Before test run>

- After installing, wiring, and piping the indoor and outdoor units, check for refrigerant leakage, looseness in power supply or control wiring, and mistaken polarity.
- Use a 500-volt measure to check the resistance between the power supply terminal block and ground to make sure that it is at least 1.0MΩ.

Attention:

Do not use the air conditioner if resistance is less than 1.0MΩ.

Remote controller



*The above figure shows the state of TEST RUN at cooling operation.

1	Turn on main switch,12 hours before proceeding to step 2 to allow for crankcase heater operation.
2	Push the TEST RUN button twice and indication of TEST RUN will be shown on the liquid crystal display.
3	Press the ↻ button to display ↻, COOL/DRY(or HEAT)to confirm that cool (or warm) air is blown out. (At heating operation, there may be a short delay before warm air begins to blow out.)
4	Push button LOW/HIGH to check that the fan speed changes properly.
5	Check the operation of outdoor unit fans.This unit controls the rotation speed and performance capacity of fans. In some cases,it may rotate at low speed as the condition of outside air requires and the speed will be kept unless the performance has become deficient. Therefore,when the condition of outside air demands,there may be such cases as the fan stops or rotates reversely. Please note that these symptoms are not mulfunction.
6	After the check is finished leave the test run mode, push the power ON/OFF button. It can also be stopped by pushing the timer MODE button.

- When a TEST RUN is started, the timer shall be set to 2 hours. The unit will automatically turn off after 2 hours.

(1) Indoor coil temperature code

During the test run, the indoor coil temperature code from 1 to 15 is displayed on the remote controller instead of room temperature. The code should fall with the lapse of time in normal COOL operation, and should rise in normal HEAT operation.

Code	1	2	3	4	5	6	7	8
Indoor coil temperature	-40~1℃	~10℃	~15℃	~20℃	~25℃	~30℃	~35℃	~40℃
Code	9	10	11	12	13	14	15	
Indoor coil temperature	~45℃	~50℃	~55℃	~60℃	~70℃	~90℃	Thermistor abnormality	

(2) Trouble during test run

- If the unit malfunctions during the test run, refer to section 10 in this manual entitled “TROUBLESHOOTING.”
- When the optional program timer is connected to the conditioner, refer to its operating instructions.

2-8 Emergency operation

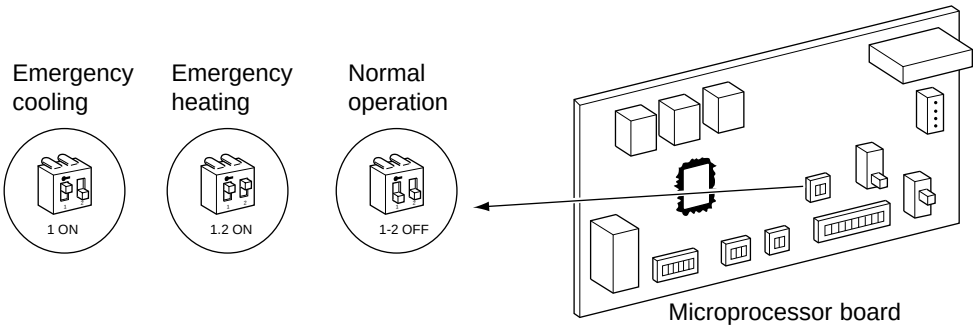
When the remote controller or microprocessor malfunctions but all other parts are normal, emergency operation is started by setting the dip switch SW3 on the indoor controller board.

<Before emergency operation>

1. Make sure the compressor and the indoor fan are operating normally.
2. Locate the defect with the self-diagnostic function. When the self-diagnostic function indicates “protective function is working”, release the protective function before starting the emergency operation.
   CAUTION: When the self-diagnostic function indicates a check code of “P5” (drain pump malfunction), DO NOT start the emergency operation because the drain may overflow.

<How to operate>

1. For emergency cooling, set the dip switch SW3-1 to ON and SW3-2 to OFF.
   For emergency heating, set the dip switch SW3-1,2 to ON.



2. Turn ON the outdoor unit breaker and then ON the indoor unit breaker.
   Emergency operation will now start.
3. During emergency operation, the indoor fan operates on high speed, but the swing louvers and the auto vanes do not operate.
4. To stop emergency operation, turn OFF the indoor unit breaker.

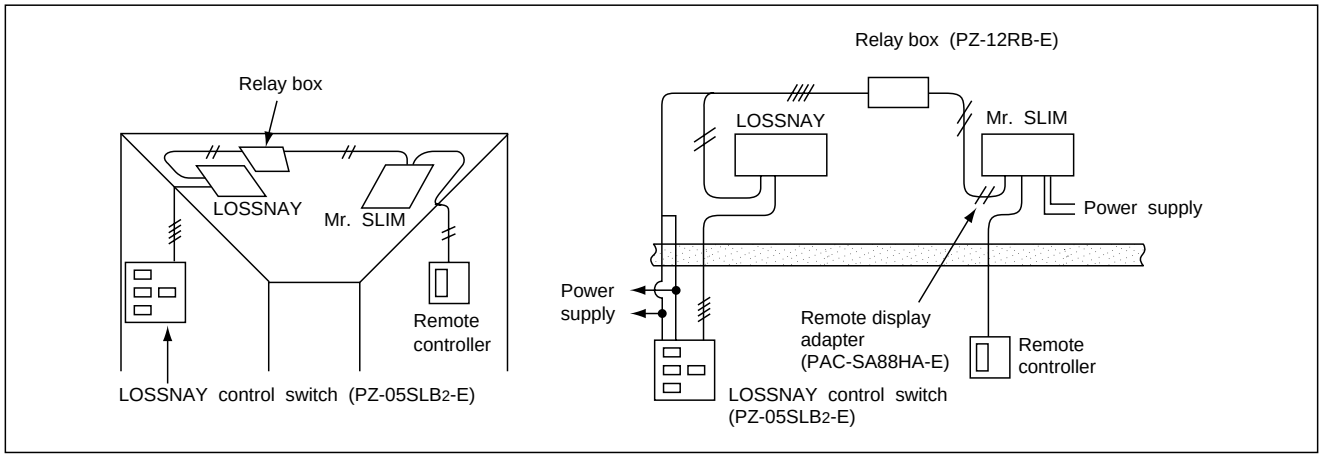
NOTE: The remote controller POWER ON/OFF button can not start/stop emergency operations.

CAUTION: Do not use emergency cooling for more than 10 hours, as the indoor coil may freeze.

2-9 Interlock with ventilation system (LOSSNAY)

Mr. SLIM/LOSSNAY interlock operation is available by using the optional parts listed below.

(1) System organization



(2) LOSSNAY models connectable to Mr. SLIM are: LGH-15RS-E, LGH-50RS-E
LGH-25RS-E, LGH-80RS-E
LGH-35RS-E, LGH-100RS-E

(3) Required parts are:

- Relay box (PZ-12RB-E)···Contact capacity 10A
- Remote display adapter (PAC-SA88HA-E)···An optional part for Mr. SLIM
- LOSSNAY control switch (PZ-05SLB2-E)···For LOSSNAY individual operation

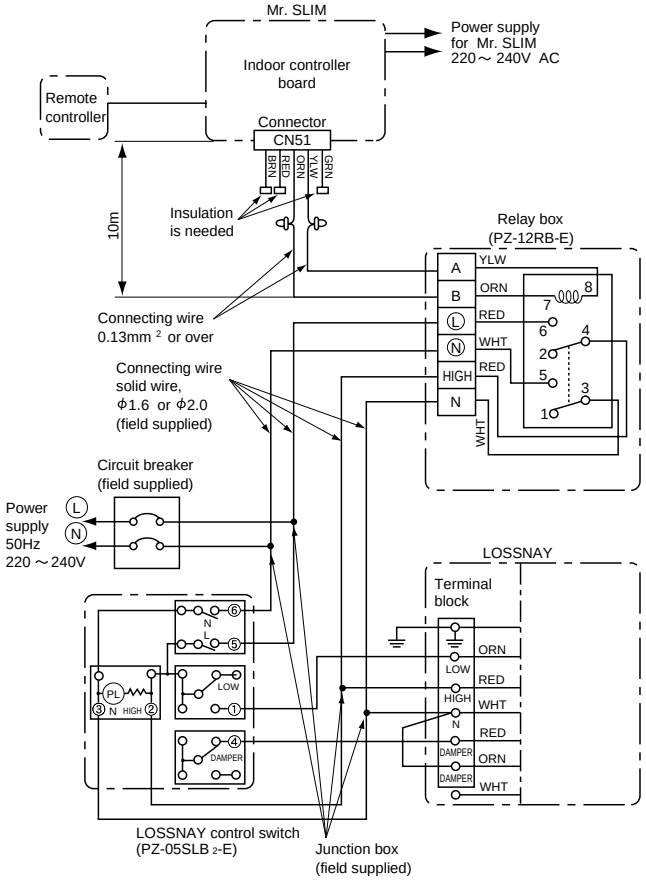
(4) Operation

①LOSSNAY turns ON/OFF according to Mr. SLIM ON/OFF

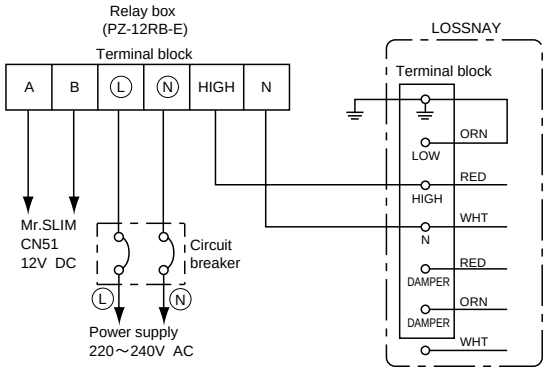
②While Mr. SLIM is OFF, LOSSNAY individual operation is available by using the LOSSNAY control switch. When Mr. SLIM turns OFF with the LOSSNAY control switch at ON, LOSSNAY will continue to operate.

(5) Wiring.

①When the LOSSNAY control switch is used



②When the LOSSNAY control switch is not used:



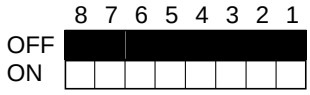
NOTE: For further information, refer to the LOSSNAY technical & service manual.

2-10 Dip switch functions

Each figure shows the initial factory setting.

1) On remote controller board

(1) SW17(Address selector)

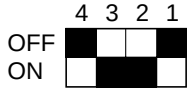


SW17-1~6) For address setting

SW17-7) When two remote controllers are used,this switch sets the controller function.
OFF:The remote controller is set as a main controller.
ON:The remote controller is set as a sub controller.

SW17-8) Switch for system back-up
OFF:Without back-up
ON:With back-up

(2) SW18 (Function selector)



SW18-1) Switch for timer
OFF:Single day ON:Timer every day

SW18-2) Switch for filter sign
OFF:Filter sign absent
ON:Filter sign present

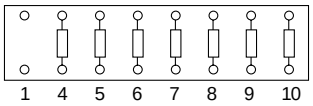
SW18-3) Switch for filter sign time setting.
OFF:100Hr ON:2500Hr

SW18-4) Not yet used.

2) On indoor controller board

PCH-2,2.5,3,4,5,6,GK(S)A-E

(1) J1 (Function selector Jumper resistors)



J1-4) Switch for drain pump
Provided :The drain pump works in only COOL operation.
Not Provided :The drain pump works in both COOL and HEAT operation.

J1-5) Switch to change the temperature to start coil frost prevention
Provided :1℃(For all current models)
Not Provided :-3℃(For previous special models)

J1-6) Switch for set temperature adjustment in HEAT mode
During HEAT operation,warm air collects near the ceiling.When the indoor unit is installed near the ceiling,the temperature read by room temperature thermistor differs from the actual living-space temperature by about 4 degrees. Therefore,the room temperature read by room temperature thermistor must be lowered by 4 degrees.
Provided :4-degree adjustment
Not Provided :No adjustment

J1-7) Switch for fan speed during thermostat OFF in HEAT operation
Provided :EXTRA LOW
Not Provided :LOW

J1-8) Switch for fan speed during thermostat OFF in HEAT operation
Provided :EXTRA LOW or LOW(set with J1-7)
Not Provided :LOW or HIGH(set with remote controller)

J1-9) Switch for detecting abnormalities in the outdoor unit abnormality detection
Provided :When an abnormality occurs,it is detected.
Not Provided :Even if an abnormality occurs,it can not be detected.

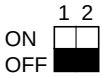
J1-10) Switch for auto restart function
Provided :This function does not work
Not Provided :This function works.

(2) SW2 (Address selector)

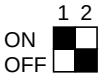
Used insetting the unit-address for group control.

(3) SW3 (Emergency operation switch)

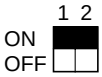
Normal operation



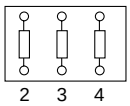
For emergency cooling



For emergency heating



(4) J5 (Model selector emergency heating)



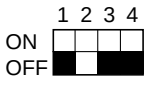
J5-2) Provided : For models with heat pump.
Not provided : For models without heat pump.
J5-3) Available : Vane horizontal angle ····· Normal
Not available : Vane horizontal angle ····· Upper angle
J5-4) This jumper is unavailable for PCH-GK(S)A-E, keep this.

(5) SW6 (Model selector)

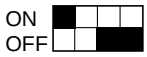
	Single control	Twin control	Triple control
SW6-1	OFF	ON (Twin No.1)	ON (Triple No.1)
SW6-2	OFF	ON (Twin No.2)	ON (Triple No.2)
SW6-3	OFF	OFF	ON (Triple No.3)
SW6-4	OFF	OFF	ON

(6) SW7 (Model selector)

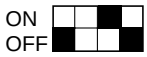
SW7-1,7-3,7-4) : Capacity setting



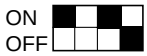
PCH-2



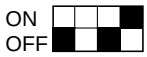
PCH-2.5



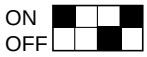
PCH-3



PCH-4



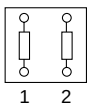
PCH-5



PCH-6

SW7-2) Voltage change
ON : 240V,230V
OFF : 220V

(7) J9 (Model selector)



J9-1) Provided
J9-2) Provided

} PCH-GK(S)A-E

2-11 INDOOR FAN CONTROL

Each figure shows the initial factory setting.

(1) Fan motor max. rotational frequency for PCH-GK(S)A-E

(2) Indoor fan relay output

(a) During fan ON

The indoor fan relay turns ON. One second later, the phase control will start.

(b) During fan OFF

The phase control turns OFF. One second later, the indoor fan relay will turn OFF.

Service Ref.	Voltage (V)	100% rotational frequency (rpm)
		50Hz
PCH-2GKA-E	220	1370
	230	1380
	240	1390
PCH-2.5GKA-E	220	1350
	230	1360
	240	1370
PCH-3GKA-E	220	1350
	230	1360
	240	1370
PCH-4GKSA-E	220	1150
	250	1160
	240	1170
PCH-5GKSA-E	220	1150
	230	1170
	240	1190
PCH-6GKSA-E	220	1160
	230	1180
	240	1200

3. OUTDOOR UNIT CONTROL

3-1 Outdoor fan control

The rotational frequency of outdoor fan is phase-controlled according to the outdoor coil temperature. This control allows the cooling operation even with the low outside-air temperature and the heating operation even with the high outside-air temperature.

3-2 Outdoor unit control

The outdoor unit turns ON/OFF the cooling/heating operation according to orders given from the indoor unit.

3-3 Protective functions

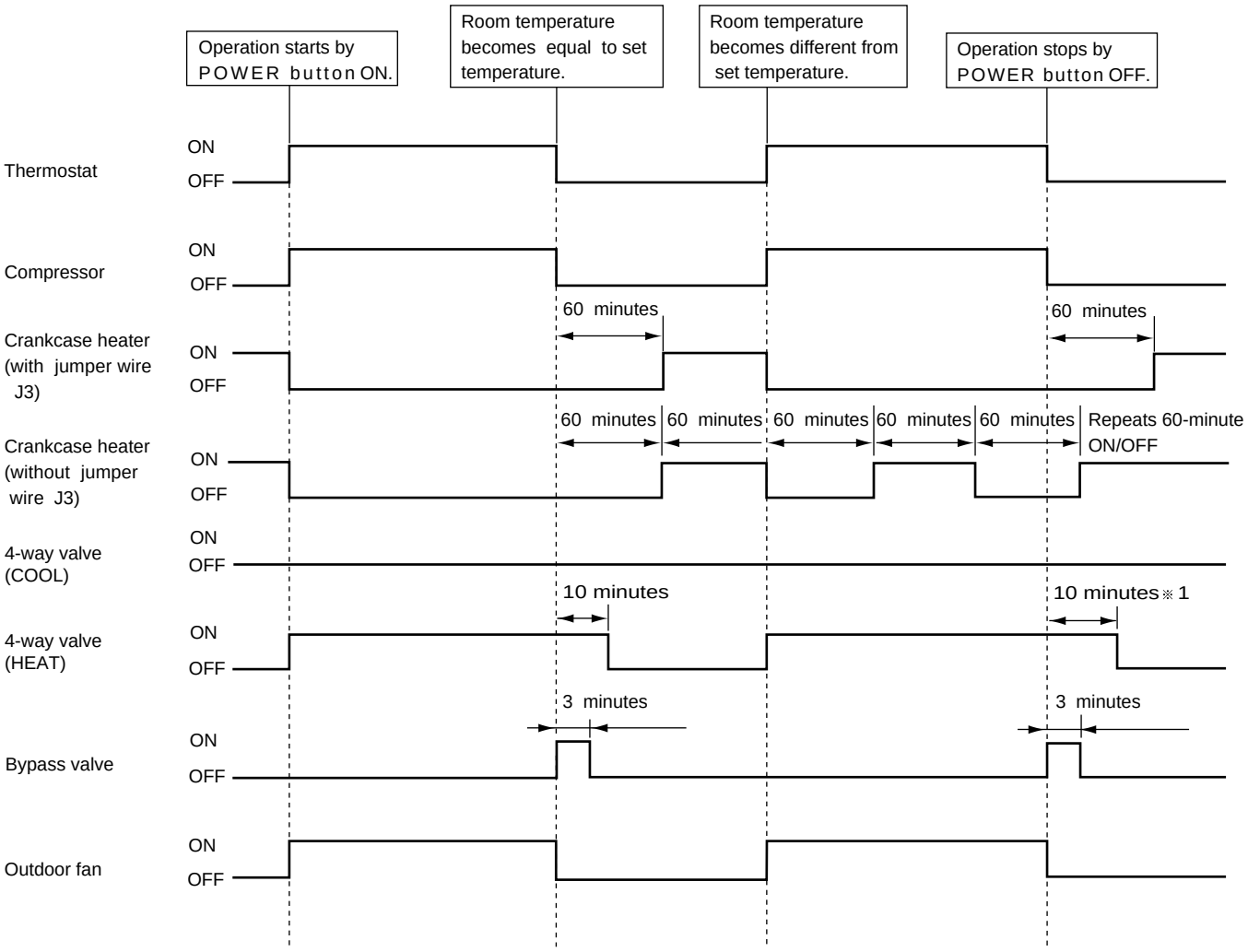
① If an reversed-phase, an open phase, or an indoor controller abnormality is detected, the outdoor unit will stop operation and the check mode will start. (For the check mode details, see page 60.)

② If a protective function works, the compressor will stop running. Three minutes later, the compressor will restart. If the protective function works again, the compressor will stop running and the check mode will start.

③ The protective function is memorized.

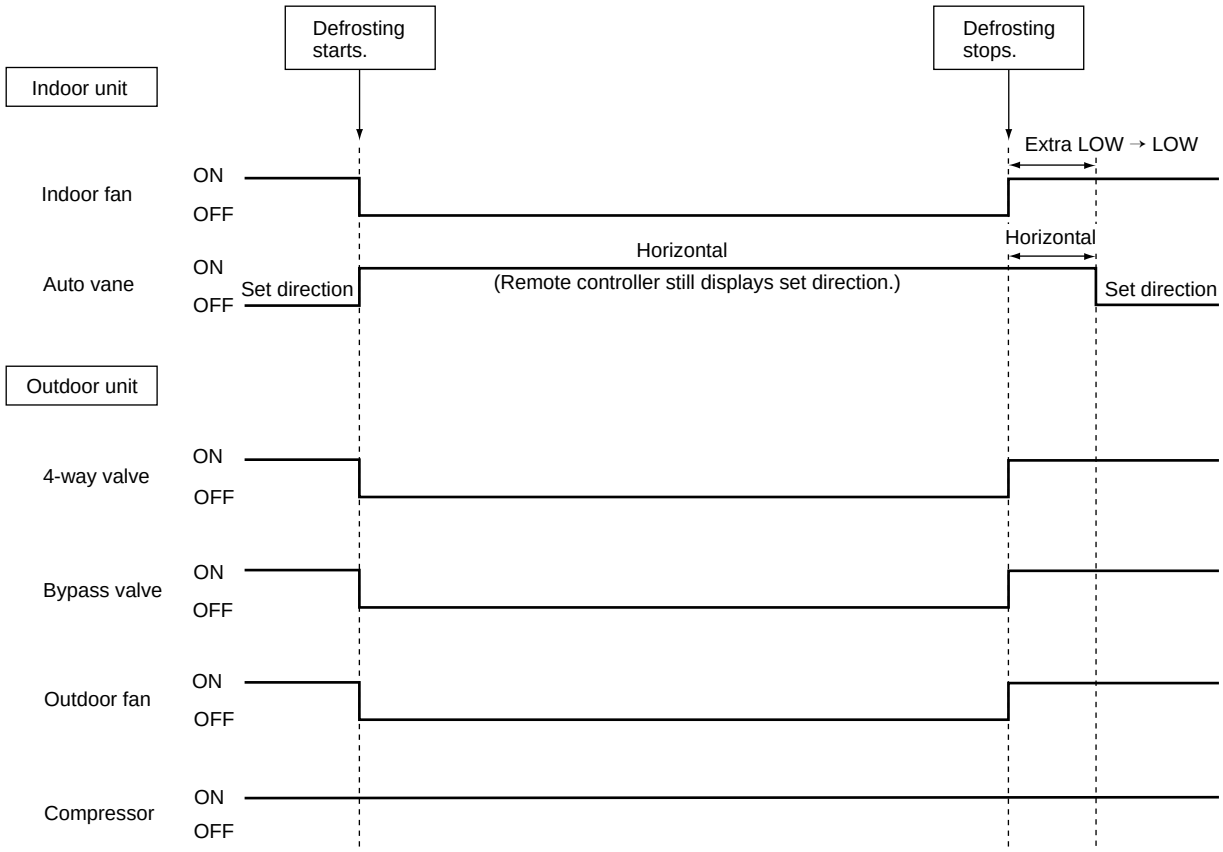
④ The memory is cleared when the POWER ON/OFF button on the remote controller is turned OFF. However, the check mode display continues until the outdoor unit receives the “operation ON” command from the indoor unit.

3-4 COOL/HEAT operation time chart



※1 If compressor restarts within 10 minutes, 4-way valve remains ON.

3-5 Defrosting in HEAT mode
<Defrosting time chart>



(1) Start conditions

A. When all of the following conditions are satisfied, defrosting will start. However, when the bypass valve turns OFF, defrosting starts 10 minutes later.
   (a) More than seven minutes have passed since the compressor start-up.
   (b) The outdoor coil thermistor reads -5°C or below.
   (c) The outdoor fan motor output step is 100%
   (d) Total time of compressor operation exceeds 30 minutes, and the outdoor coil temperature has fallen by 8 degrees or more in comparison with that of 10 minutes after the compressor start-up.
   NOTE: The outdoor coil temperature of 10 minutes after the compressor start-up is memorized until the defrosting operation has ended.

B. When all of the following conditions are satisfied, defrosting will start.
   (a) ~ (c) The same as above (a) ~ (c) in item A
   (d) Total time of compressor operation exceeds “defrost interval”.
   Further information on the defrost interval is described in (3).

C. After the total time of compressor operation exceeds the defrost interval, the thermostat repeats ON/OFF three times. Two minutes after the fourth “ON” of the thermostat, if the outdoor coil thermistor reads -5°C or below and the fan output output is 100%, defrosting will start.
   NOTE: The count of the thermostat ON/OFF is cleared by the compressor-OFF command or defrosting start-up.

(2) During defrosting

- Even if the thermostat turns OFF, defrosting continues.
- The 4-way valve, bypass valve, outdoor fan, and indoor fan are OFF.

(3) Defrost interval

The defrost interval time is determined as follows.

- Initial defrost interval is 50 minutes.
- The defrost interval after defrosting depends on the preceding defrosting time as shown below.

Defrosting operation time	Next defrost interval
3 minutes or below	120 minutes
3 to 7 minutes	80 minutes
7 to 10 minutes	60 minutes
10 to 15 minutes	40 minutes
15 minutes (Maximum)	30 minutes

NOTE1:If the unit stops during defrosting , the next defrost interval will be 50 minutes.

NOTE2:If a protection function works for the first time during defrosting, the compressor will stop.
After a 3-minute time delay, defrosting will restart. In this case, a 3-minute time delay is included with the defrosting time.
If the protection function works for the second time, the unit stops operation and displays the check code.
The next defrost interval will be 30 minutes.

NOTE3:When the defrosting has ended, the total time of the compressor operation is cleared off.

(4) Termination conditions

Defrosting finishes when any of the following conditions are satisfied.

① Defrosting has continued for 15 minutes.
② Outdoor coil thermistor reads 22°C or above for the first 75 seconds after defrosting start-up.
③ Outdoor coil thermistor reads 8°C or above after the 75-second defrosting.
④ Power ON/OFF button is turned OFF during defrosting.

3-6 Actuators

(1) Bypass valve control

<Cooling mode>

① When the unit stops due to the coil frost prevention, the bypass valve turns ON. When one hour has passed since the compressor stopped, the bypass valve returns to OFF.
② When the compressor operates with the bypass valve at ON for more than 30 minutes, the bypass valve turns OFF.
③ When the compressor stops with the bypass valve at OFF, the bypass valve turns ON and remains ON for three minutes.

<Heating mode>

① When the unit starts for the first time after the circuit breaker has been turned ON, or when it starts after the compressor OFF of 30 minutes or more, if the outdoor coil thermistor reads 12°C or more, the bypass valve turns ON.
② When the high pressure switch (63H1) works, the bypass valve turns ON.
③ When the bypass has been ON for 30 minutes:
- If the high pressure switch has already returned, the bypass valve turns to OFF.
- If not, the fan output step keeps 70 for three minutes. Meanwhile, if the high pressure switch returns, the bypass valve turns OFF. Otherwise the normal fan control starts.

④ When the operation mode changes or stops, the bypass valve turns ON and remains ON for three minutes.

<Defrosting operation>

① The bypass valve is OFF.

(2) Crankcase heater control

① With jumper wire J3
The crankcase heater is ON from when the power is turned ON until the compressor starts, and then turns ON one hour after the compressor stops.
② Without jumper wire J3
The crankcase heater is ON from when the power is turned ON until the compressor starts, and repeats 1-hour ON and 1-hour OFF.

3-7 Service functions

(1) Compulsory defrosting

① When all of the following conditions are satisfied, pressing SW2 starts the compulsory defrosting.
- During HEAT mode
- The compressor is ON.
- The outdoor coil temperature is being displayed by LED. (Outdoor controller board dip switch SW3-1 : OFF, SW3-2 : ON)
- The outdoor coil thermistor reads 8°C or below.

② The operation state and the termination conditions of the compulsory defrosting are the same as those of the normal defrosting. As an exception, the defrost interval after the defrosting completion is 50 minutes.

(2) Fixed fan-output

While the compressor is operating (except during defrosting) and the fan output step is indicated by LED, pressing SW2 fixes the fan output. The fixed fan-output can be released when any of the following conditions are satisfied.

① SW2 is pressed again.
② SW3 setting is changed.
③ The compressor stops.
④ Defrosting operation starts.

(3) Function of switches on the outdoor controller board

SW1: Clears the check code memory (push-button switch)
SW2: Switches the output state indication and the check code display (push-button switch)
SW3-1,2: Switches the output state indication items (dip switch)
For further information, refer to page 47.

(4) 100% fan output

Fan output is fixed to 100% by shorting the connector CN22. However, the fan stops during compressor OFF or defrosting. Open-circuit of CN22 restarts the normal fan control.

(5) Time shortening

Short circuit of the connector CN21 shortens the time as follows

① Fan control period: 30 seconds → 3 seconds
② Three-minutes time delay function : 3 minutes → 3 seconds
③ Max. time of defrosting : 15 minutes → 15 seconds
④ Defrost interval : 30 ~ 120 minutes → 3 ~ 12 seconds
⑤ Compressor ON/OFF time for bypass valve ON/OFF : 30 minutes → 3 seconds
⑥ Compressor ON time to start other functions : x minutes → x seconds
⑦ Crankcase heater operation : 1 hour → 6 seconds

9 TROUBLESHOOTING

1.TROUBLES IN TEST RUN

<table>
<tr><th>Symptom</th><th>Cause</th><th>Check points</th></tr>
<tr><td>The display “CENTRALLY CONTROLLED” on remote controller dose not disappear.</td><td>1) Wrong address setting of remote controller/indoor controller board.
2) Timer adapter is connected to the remote controller.
3) Signal transmission error between indoor unit and remote controller.</td><td>1) Check the address setting of remote controller and indoor controller.
2) Make sure the timer adapter is used correctly.
3) ① Turn another remote controller’s DIP SW17-7 ON to make it sub controller.
② Connect the sub controller to the unit, and turn circuit breaker ON.
● If the display “centrally controlled” disappears, replace the original remote controller.
● If the display remains the same, replace the indoor controller board.</td></tr>
<tr><td>When remote controller POWER button is turned ON, the check code “EO”appears.</td><td>1) Signal transmission error between indoor unit and remote controller</td><td>1) ① Connect a sub remote controller.
② Turn circuit breaker ON.
If the display “centrally controlled” remains, replace the indoor controller board.
③ If the display disappears, turn the remote controller POWER button ON and check as follows.
<table>
<tr><th></th><th>Remote controller</th><th>Sub remote controller</th><th>Malfunction</th></tr>
<tr><td>1</td><td>Operating Display</td><td>EO Display</td><td>Malfunction of indoor Unit</td></tr>
<tr><td>2</td><td>Operating Display</td><td>Operating Display</td><td>Malfunction of Remote controller</td></tr>
<tr><td>3</td><td>No Display</td><td>EO Display</td><td>Malfunction of indoor Unit and Remote Controller</td></tr>
<tr><td>4</td><td>No Display</td><td>Operating Display</td><td>Malfunction of Remote controller</td></tr>
</table></td></tr>
<tr><td>When remote controller POWER button is turned ON, operating display appears, but disappears soon.</td><td>1) Short circuit of indoor/outdoor connecting wire
2) Short circuit of transmission wire.
3) Short circuit of drain sensor heater circuit.
4) Wrong operation of remote controller</td><td>1), 2) Check the wire
3) Measure the resistance of the drain sensor connector CN50 ① ~ ③. Normal resistance should be 82Ω.
4) Turn the circuit breaker OFF, and then turn ON.
If the remote controller remains abnormal, despite the above measures, replace the indoor controller board.</td></tr>
<tr><td>Despite turning POWER button ON, the remote controller display does not appear.</td><td>1) Damaged remote controller.
2) Short circuit of transmission wire.
3) Bad contact of indoor CN40.
4) CN40 is attached to a sub unit.
5) Damaged transformer.
6) Bad contact of CN40.
7) Blown fuse.
8) Circuit breaker OFF.</td><td>1) Measure the voltage between terminals of remote controller. If no voltage, remove the terminals and measure the voltage between wires. If the voltage is between 6VDC and 12V, replace the remote controller.
2) ~ 8) Check each point.
If it is not defective, replace the indoor controller board.</td></tr>
</table>

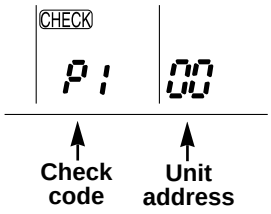
2. SELF DIAGNOSTIC FUNCTION WITH REMOTE CONTROLLER

2-1 When malfunction occurs during operation

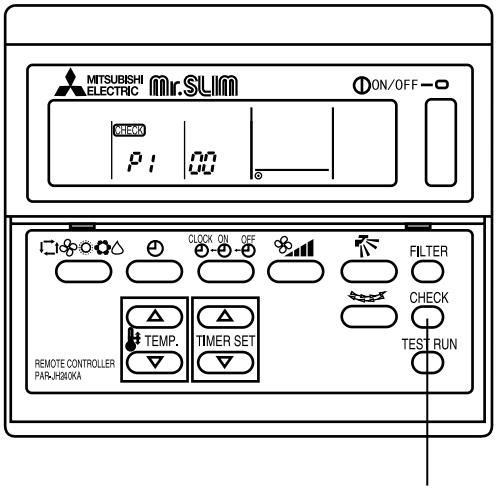
When a malfunction occurs, the indoor and outdoor units stop and the malfunction is displayed on the LCD of the remote controller.

(1) ON the set temperature display part, “CHECK” appears, and the unit address and the check code are displayed alternately at one-second intervals. (Check mode)

Example



CHECK mode



CHECK button

(2) When one remote controller controls several units in the group control, the LCD shows the unit address and check code of the first malfunctioning unit.

(3) To cancel the check mode, press the ON/OFF button. In remote ON/OFF control, press the remote ON/OFF switch. In centralized control, turn OFF the ON/OFF button of centralized controller.

NOTE: The latest check code is memorized, even if the check mode is cancelled by the way mentioned above. It takes 60 seconds maximum to display the memorized check code.

2-2 How to use the self diagnostic function for service

A. For normal control with one unit and one remote controller

(1) Pressing the ( ) CHECK button on the remote controller twice starts the self diagnostic function.

(2) During the self diagnostic function, “CHECK” appears at two positions on the remote controller display. Then, at least 10 seconds later, the unit address and the check code is alternately displayed at one-second intervals.

(3) Check and repair the unit according to the check code. (Refer to the next page.)

2-3 For group control using one remote controller

(1) Press the (△) TEMP. or (▽) TEMP. button on the remote controller to advance or go back to the unit address. Each time (△) TEMP. button is pressed, the unit address advances by one. Each time (▽) TEMP. button is pressed, the unit address goes back by one.
The check code and the unit address, appear alternately.

(2) The check code “U8” means no malfunction has occurred since installation.
The check code “EO” means the following conditions:
- The unit address displayed on the remote controller does not apply to any unit.
- Power is not supplied to the unit.
- Signal transmitting/receiving circuit is abnormal.

(3) Check and repair the unit according to the check code. (Refer to the next page.)

Check code	Diagnosis of malfunction	Cause	Check points
EO	Signal transmitting/receiving error (Indoor controller does not respond to remote controller signal.)	During individual unit control 1) Bad contact of transmission wire 2) Signal transmitting/receiving circuit is abnormal.	1) Check the transmission wire. 2) Check with another remote controller. If “EO” is still indicated, replace the indoor controller board. If other check code appears. replace the original remote controller.
P1	Abnormality of room temperature thermistor (RT1)	1) Bad contact of thermistor 2) Damaged thermistor	1) Check the thermistor. 2) Measure the resistance of the thermistor. Normal resistance should be as follows. 0 C ···15kΩ 30 C·····4.3kΩ 10 C·····9.6kΩ 40 C·····3.0kΩ 20 C·····6.3kΩ If the resistance is normal, replace the indoor controller board.
P2	Abnormality of indoor coil thermistor (RT2)		
P3	Signal transmission error (Remote controller does not respond to indoor controller signal.)	1) Bad contact of transmission wire 2) Signal transmitting/receiving circuit is abnormal. 3) Wrong operation due to noise wave emitted by other appliances	1) Check the transmission wire. 2) Check with another remote controller. If “P3” is still indicated, replace the indoor board. If other check code appears, replace the original remote controller. 3) Short-circuit between ① and ② of CN40 and attach CN40 to the following units. ● Second unit in twin control ● Second and third units in triple control ● Sub units in group control
P4	Abnormality of drain sensor	1) Bad contact of transmission wire 2) Damaged thermistor	1) Check the connector. 2) Measure the resistance of the thermistor ④ ~ ⑤. As for the normal resistance, refer to the case of P1. If the resistance is normal, replace the indoor controller board.
P5	Malfunction of drain pump	1) Malfunction of drain pump 2) Damaged drain sensor	1) Check the drain pump. 2) ● Check the drain sensor. ● Check the drain sensor heater. Normal resistance should be 82Ω. If the resistance is normal, replace the indoor controller board.
P6	Coil frost protection is working.	1) Short cycle of air cycle 2) Dirty air filter 3) Damaged fan 4) Abnormal refrigerant	1) Clear obstructions from the air cycle. 2) Clean the air filter 3) Check the fan. 4) Check the refrigerant temperature.
P7	System error	1) Wrong address-setting 2) Signal transmitting/receiving circuit of remote controller is abnormal. 3) Wrong SW6-setting	1) Check the address-setting. 2) Check with another remote controller. If check code other than “P7” appears, replace the original remote controller. 3) Check SW6 setting.
P8	Abnormality in outdoor unit	1) Wrong wiring of indoor/outdoor connecting wire 2) Reversed phase 3) Protection device is working 4) Damaged outdoor coil thermistor	1) Check the indoor/outdoor connecting wire. 2) Change the connection of electric wiring. 3) Check the protection device. 4) Measure the resistance of the outdoor coil thermistor. If the resistance is normal, replace the outdoor controller board.

3. SERVICE DATA INDICATION BY SWITCHES ON OUTDOOR CONTROLLER BOARD

Setting dip switches SW2 and SW3 on the outdoor controller board enables LED to show the output state and check code. Output state is shown by LED lighting, and check code by blinking.

SW1 : Turning SW1 ON clears the check code. If SW1 is turned ON while the check code is blinking , the indication changes to output state indication.

NOTE : SW1 is usually available independent of SW3 setting. As an exception, when the check code shows a reversed phase or an open phase during the power-on-reset state, SW1 is not available.

SW2 : SW2 is turned ON by pressing, and OFF by releasing.

When SW3-1 and SW3-2 are OFF, pressing SW2 changes indication between output state and check code alternately.

When SW2 is turned On with SW3-1 OFF and SW3-2 ON, the compulsory defrosting starts.

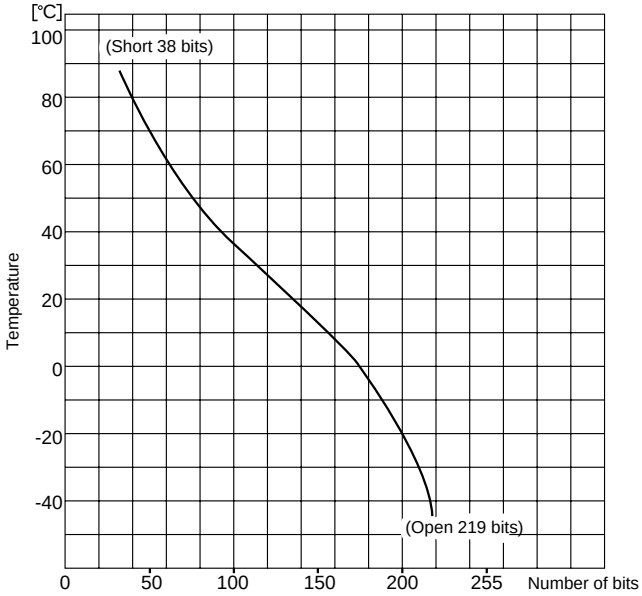
SW3 : Output state indication items depend on the combination of SW3-1 ON/OFF and SW3-2 ON/OFF.

Changed alternately by pressing SW2.

	Check code	Output state	Outdoor coil temperature (bit)	Fan Output step (bit)	Total time of compressor operation(Hr)
SW3-1	OFF	OFF	OFF	ON	ON
SW3-2	OFF	OFF	OFF	ON	ON
LED	Blinking	Lighting			
LD1	Reversed phase	Compressor ON command from indoor controller	1	1	256
LD2	Open phase	Heating operation command from indoor controller	2	2	512
LD3	Outdoor coil thermistor is abnormal	During 63H1 function	4	4	1024
LD4	63H2 function	Compressor ON	8	8	2048
LD5	51C function	Outdoor fan ON	16	16	4096
LD6	26C function	4-way valve ON	32	32	8192
LD7	Overheat protection	Bypass valve ON ❊	64	64	16384
LD8	Input circuit on controller board is abnormal	Crankcase heater ON	128	128	32768

3-1 Outdoor coil temperature

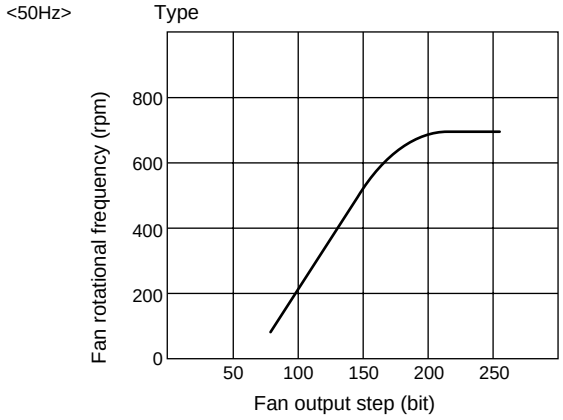
To obtain data on the outdoor coil temperature, add the number of bits of lighting LED, and see the graph below to find the temperature.



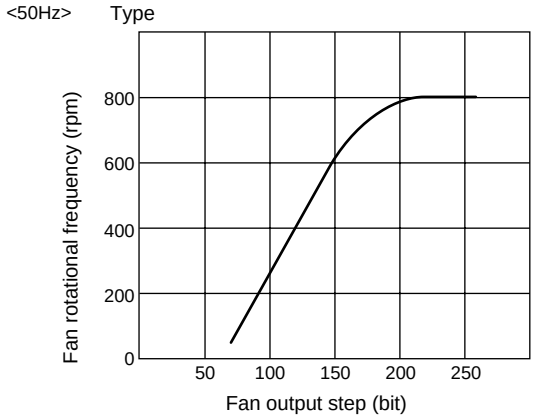
3-2 Fan output step

To obtain data on the fan output step, add the number of bits of lighting LED, and see the graph below to find the fan rotational frequency.

① PUH-2/4K type



②PUH-2.5/3/5/6K type



3-3 Total time of compressor operation

Compressor operation time is indicated in 256 hour units. To obtain the compressor operation time, add the hours of lighting LED. During the compressor operation time indication, SW2 is not available.

3-4 Inspection code indication

When the inspection code is displayed twice during the normal operation, the operation changes to INSPECTION mode automatically.

(On the first display of the inspection code, the mode changes to Restarting Protection Mode for 3 minutes and the operation restarts after 3 minutes.)

※1) When the mode changes to INSPECTION by pressing the SW2 ¨ON¨, the operation will be continued if during operation.

※2) When pressing except for the SW3-1 OFF and SW3-2 OFF, the mode changes to INSPECTION but the indication code is not displayed.

※3) During the INSPECTION when the indoor controller operates OFF → ON of the compressor, output is displayed.

3-5 SW1 operation

The inspection code is deleted by operating the SW1 ¨ON¨ and also self-preservation is released, if during self-preservation.

Or if while the inspection code is blinking, it changes output display.

Note) SW1 has no connection with the Dip SW3 setting and is available at any time. However, when the inspection code is displayed initially (anti-phase, phase interruption), SW1 will be unavailable.

4. TROUBLESHOOTING ACCORDING TO CHECK CODE

Blinking LED	Diagnosis of malfunction	Cause	Check point
LD1	Reversed phase	Phases L_1, L_2, and L_3 are connected improperly.	Check the power supply connection.
LD2	Open phase	● Phase L_2 is open. ● Contact of protector, such as thermal switch, opened when power was turned on.	● Check the power supply. ● Check each protector.
LD3	Outdoor coil thermistor is abnormal. (Open circuit or short circuit)	● Outdoor coil thermistor is broken. ● Thermistor was connected incorrectly.	● Measure the resistance of the thermistor. ● Check the thermistor. If normal, replace the outdoor controller board.
LD4	High pressure switch (63H2) function	● 62H2 was badly connected. ● 63H2 was working.	● Check 63H2 and the outdoor fan motor. ● Check if refrigerant supply is low. ● Check if air cycle is short-cycled.
LD5	Thermal relay (51C) function	● 51C was connected incorrectly. ● 51C was working.	● Check 51C, the compressor, and power supply.
LD6	Thermal switch (26C) function.	● 26C was connected incorrectly. ● 26C is working.	● Check 26C. ● Check if refrigerant supply is low. ● Check if the capillary tube is clogged.
LD7	Over heat protection	● The thermistor is broken. ● Coil temperature is over 67°C.	● Measure the resistance of the thermistor. ● Check the outdoor fan motor. ● Check if air cycle is short-cycled.
LD8	Input circuit of outdoor controller board is abnormal.	● Pulse input is abnormal.	● Replace the outdoor controller board.

5. WHEN OUTDOOR UNIT DOES NOT WORK

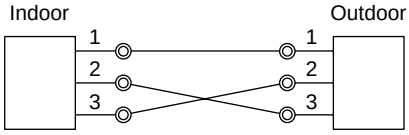
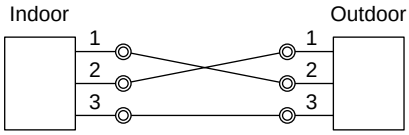
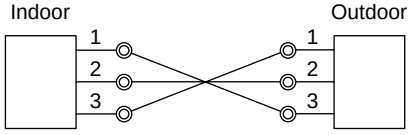
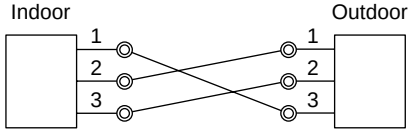
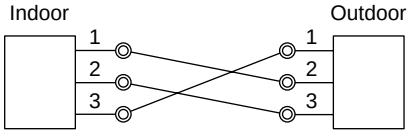
Cause	Check points
1) Indoor/outdoor connecting wires are poorly connected. (Refer to next page.)	1) Check the connecting wires.
2) Power supply is poorly connected.	2) Check the power supply.
3) Connector or transformer is broken.	3) Check connectors and transformers.
4) Fuse (6A) in the outdoor controller board is blown.	4) Check the fuse.

6. WRONG WIRING ON SITE

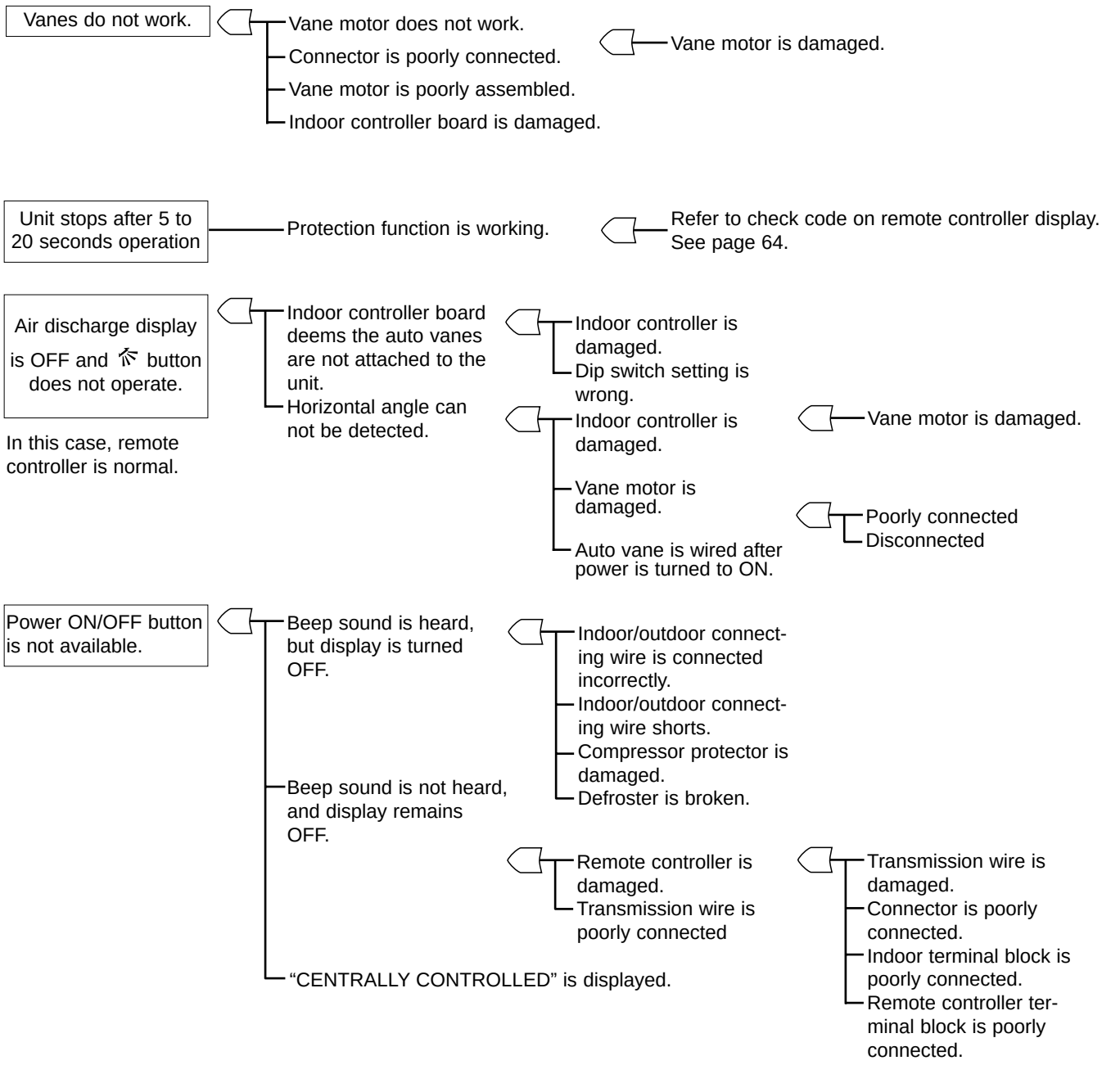
6-1 Between remote controller and indoor unit

If the wire is disconnected between the remote controller and the indoor unit, nothing is displayed on the remote controller when the POWER button is pressed. The beep sound will also not be heard.

6-2 Phenomenon due to wrong wiring between indoor and outdoor units

Wrong wiring	Mode	Thermostat	Phenomenon
	COOL	OFF	Operation stops.
		ON	4-Way valve turns ON. 9 minutes later, check code “P8” appears on remote controller display.
	HEAT	OFF	Cooling operation. Several minutes later, check code “P8” appears on remote controller display.
		ON	Normal operation.
	COOL	OFF	Outdoor unit stops.
		ON	Operation stops. 9 minutes later, check code “P8” appears on remote controller display.
	HEAT	OFF	Operation stops.
		ON	Operation stops. 27 minutes later, check code “P8” appears on remote controller display.
	COOL	OFF	Outdoor unit stops.
		ON	Operation stops. 9 minutes later, check code “P8” appears on remote controller display.
	HEAT	OFF	Operation stops.
		ON	Operation stops. 27 minutes later, check code “P8” appears on remote controller display.
	COOL	OFF	Outdoor unit stops.
		ON	Operation stops. 9 minutes later, check code “P8” appears on remote controller display.
	HEAT	OFF	Operation stops.
		ON	Operation stops, 27 minutes later, check code “P8” appears on remote controller display.
	COOL	OFF	Outdoor unit stops.
		ON	Operation stops. 9 minutes later, check code “P8” appears on remote controller display.
	HEAT	OFF	Operation stops.
		ON	Operation stops. 27 minutes later, check “P8” appears on remote controller display.
Disconnection between 1 and 1 or 2 and 2.	COOL	OFF	Operation stops.
		ON	Operation stops. 9 minutes later, check code “P8” appears on remote controller display.
	HEAT	OFF	Operation stops. 4-way valve turns OFF.
		ON	27 minutes later, check code “P8” appears on remote controller display.
Disconnection between 3 and 3.	COOL	—	Normal operation.
	HEAT	OFF	Operation stops. 4-way valve turns OFF.
		ON	Operation stops. 27 minutes later check code “P8” appears on remote controller display.

7. OTHER TROUBLES AND CAUSES


Vanes do not work.
Vane motor does not work.
Connector is poorly connected.
Vane motor is poorly assembled.
Indoor controller board is damaged.
Vane motor is damaged.
Unit stops after 5 to 20 seconds operation
Protection function is working.
Refer to check code on remote controller display. See page 64.
Air discharge display is OFF and button does not operate.
In this case, remote controller is normal.
Indoor controller board deems the auto vanes are not attached to the unit.
Horizontal angle can not be detected.
Indoor controller is damaged.
Dip switch setting is wrong.
Indoor controller is damaged.
Vane motor is damaged.
Vane motor is damaged.
Poorly connected
Disconnected
Auto vane is wired after power is turned to ON.
Power ON/OFF button is not available.
Beep sound is heard, but display is turned OFF.
Indoor/outdoor connecting wire is connected incorrectly.
Indoor/outdoor connecting wire shorts.
Compressor protector is damaged.
Defroster is broken.
Beep sound is not heard, and display remains OFF.
Remote controller is damaged.
Transmission wire is poorly connected
Transmission wire is damaged.
Connector is poorly connected.
Indoor terminal block is poorly connected.
Remote controller terminal block is poorly connected.
“CENTRALLY CONTROLLED” is displayed.

8. MR. SLIM/LOSSNAY INTERLOCK OPERATION

<Symptoms that are not malfunctions>

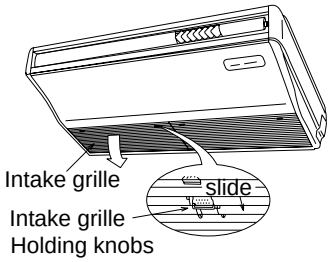
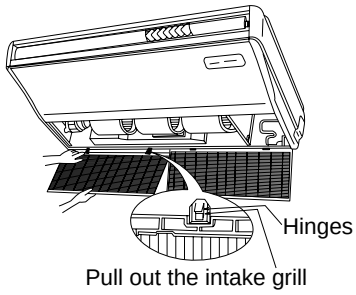
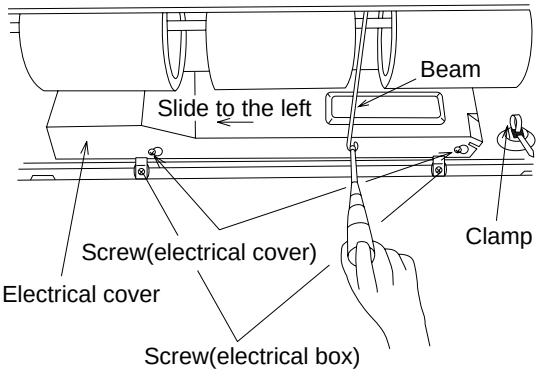
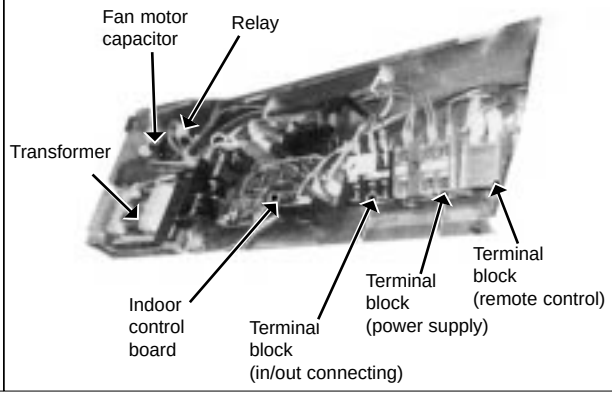
If any of the following symptoms occur, they are not malfunctions.

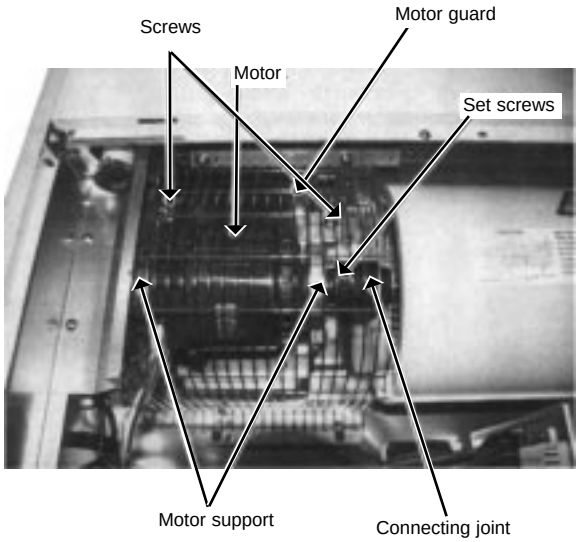
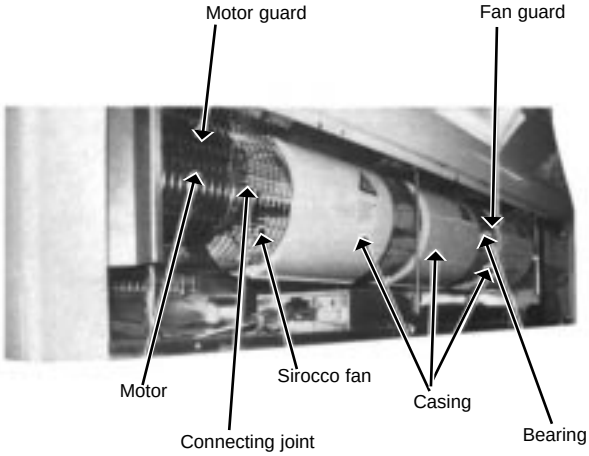
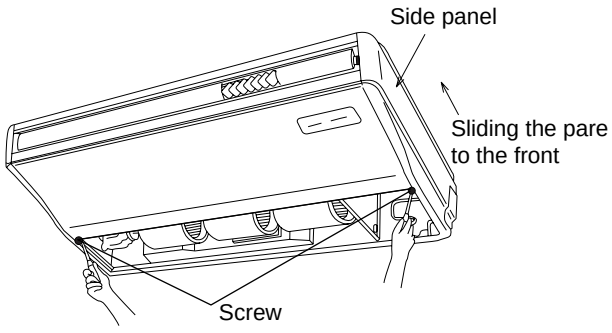
Symptom	Cause
LOSSNAY control switch does not work.	LOSSNAY control switch can not work during interlock operation. LOSSNAY control switch is effective only while Mr. SLIM is not operating.
LOSSNAY air speed can not be controlled in interlock operation.	LOSSNAY fan speed is fixed to HIGH during interlock operation. LOSSNAY fan speed LOW/HIGH can be switched only during LOSSNAY individual operation with the LOSSNAY control switch.

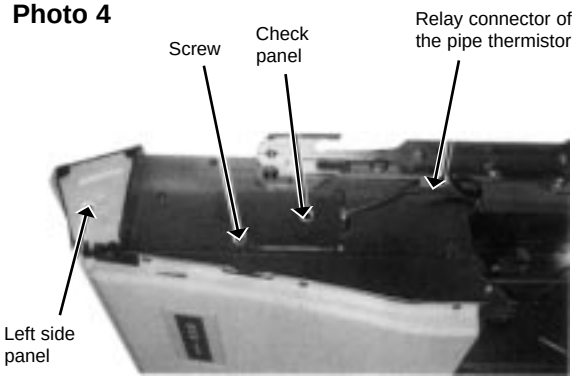
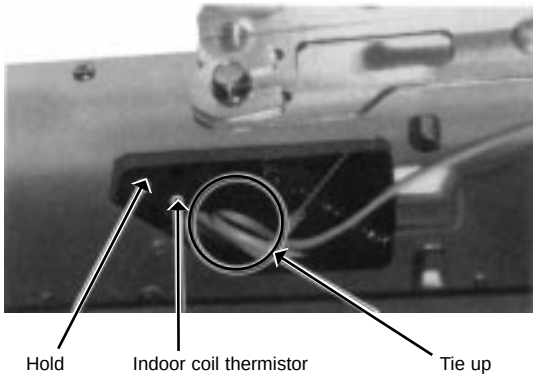
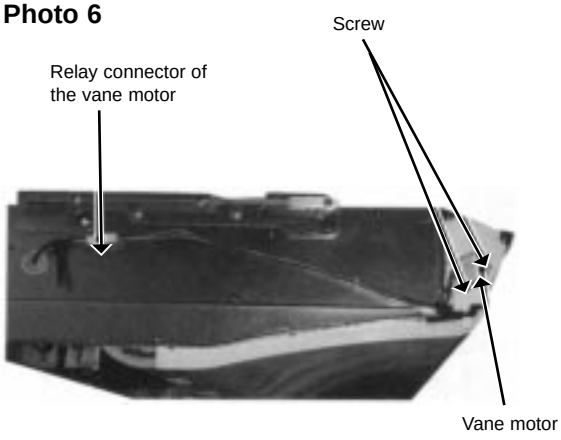
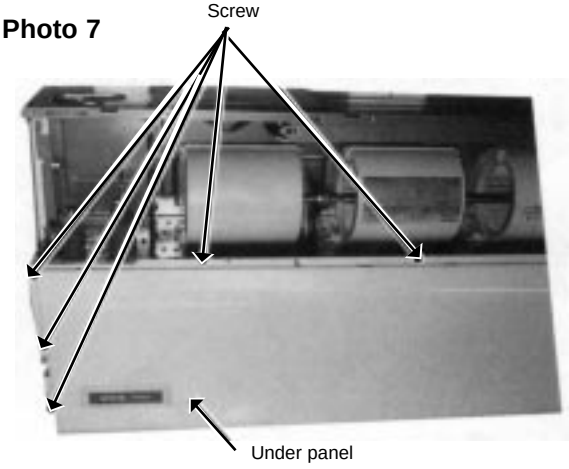
For LOSSNAY, troubleshooting refer to the LOSSNAY technical & service manual.

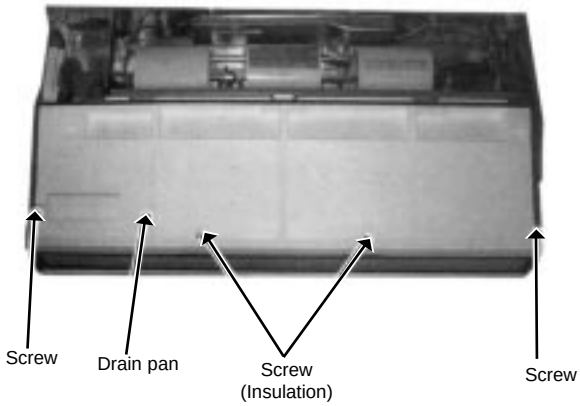
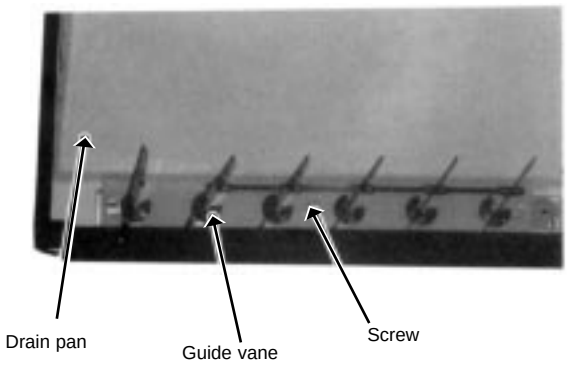
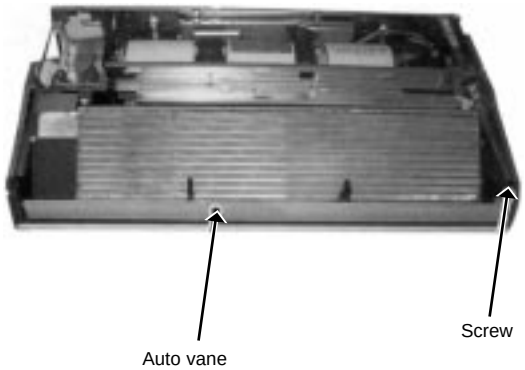
10 DISASSEMBLY PROCEDURE

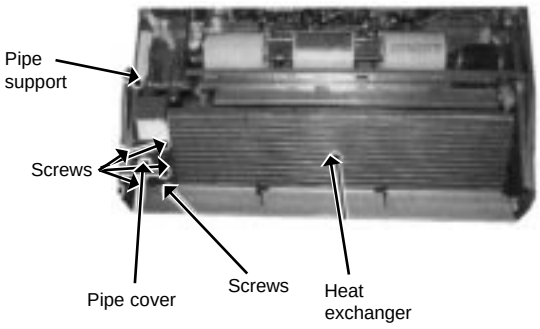
PCH-3GKA-E

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
1. Removing the air intake grille (1) Slide the intake grille holding knobs (at two locations) backward to open the intake grille. (2) When the intake grille left open, push the stoppers on the rear hinges (at two locations) to pull out the intake grille.	**Figure 1**  **Figure 2** 
2. Removing the electrical box (1) Remove the air intake grill. (2) Remove the screw from the beam and remove the beam. (3) Remove the screws from the electrical cover, and remove the electrical cover. (4) Disconnect including CN6V and CN21. (5) Remove the screws from the electrical box and pull out the electrical box. <Electrical parts in the electrical box> Terminal block (for power supply) Terminal block (for in/outdoor connecting wire) Terminal block (for remote controller) Fan motor capacitor Indoor control board Relay Transformer	**Figure 3**  **Photo 1** 

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
3. Removing the fan motor (1) Remove the intake grill. (2) Disconnect the fan motor connector. (3) Unscrew screws for removing the motor guard. (4) Unscrew screws for removing the fan guard. (5) Remove the screw for removing the motor support at both left and right side. (6) Loosen the set screws at the fan motor side of the connecting joint. (7) Slide the fan motor to the left side and pull it out.	**Photo 2** 
4. Removing the sirocco fan (1) Remove the air intake grill. (2) Remove 1 beam. (3) Unscrew screws for removing the motor guard. (4) Unscrew screws for removing the fan guard. (5) Remove the lower casing while pressing the stoppers at upper side of the casing. (6) Loosen the set screws at the connecting joint. (7) Remove the sirocco fan and shaft together by sliding the shaft to the left. (Note) Make sure that the upper side casing is snapped to the fan plate securely with catch.	**Photo 3** 
5. Removing the side panel (1) Remove the air intake grill. (2) Remove the screw from the side panel, and remove the side panel by sliding the panel to the front.	**Figure 4** 

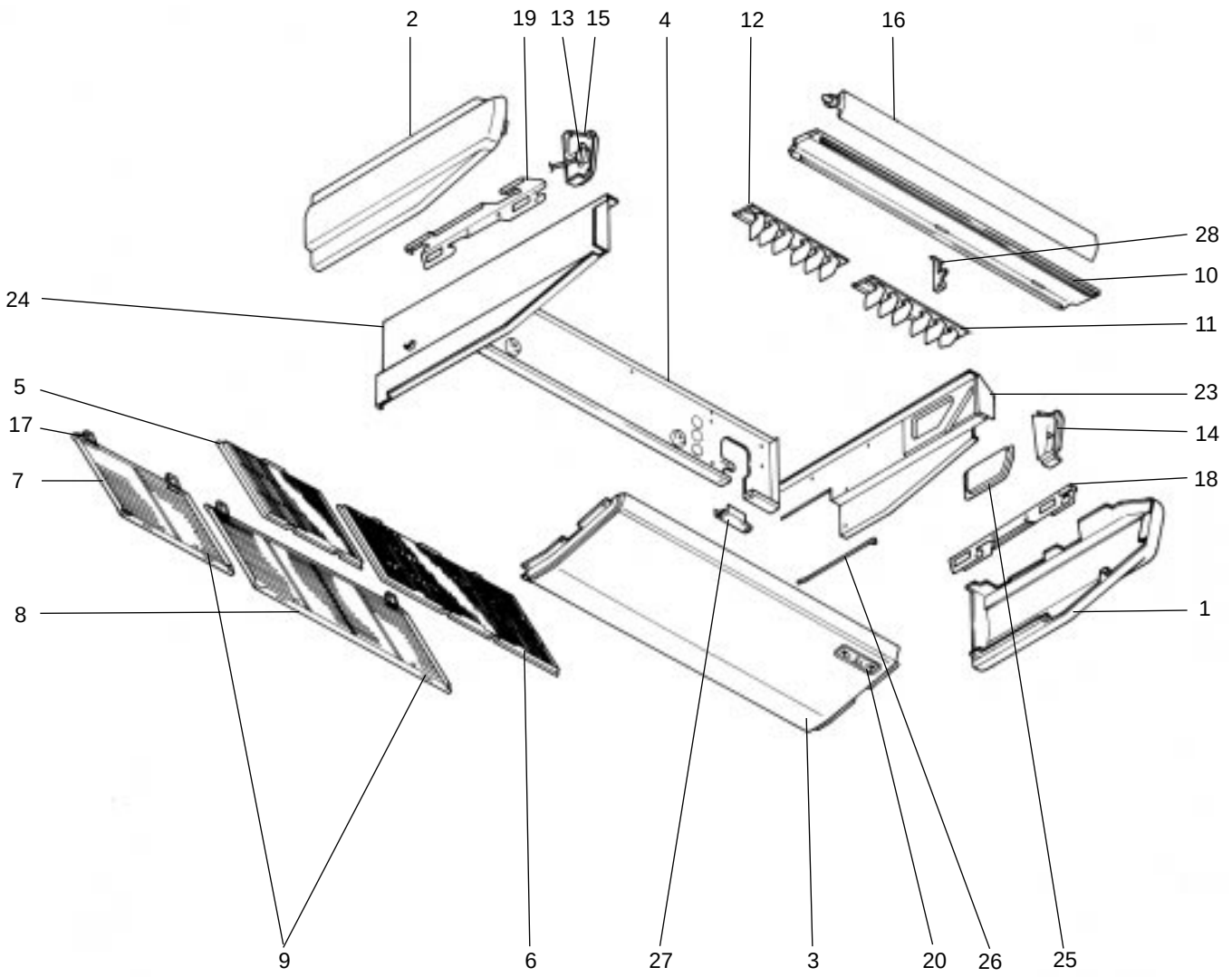
OPERATING PROCEDURE	PHOTOS
6. Removing the vane motor (1) Remove the air intake grill. (2) Remove the left side panel. (3) Remove the relay connector of vane motor. (4) Remove the electrical box. (5) Remove the screws of vane motor, then remove vane motor. (Note) Connect the lead wires and connectors properly and place them in the proper position so that the wires are not pinched by other parts.	**Photo 4**  **Photo 5** 
7. Removing the Indoor coil thermistor (1) Remove the air intake grill. (2) Remove the right side panel. (3) Remove the relay connector of the pipe thermistor. (4) Remove the screw, and remove the check panel. (5) Extract the indoor coil thermistor from the holder. <Caution for the installation> There is a possibility for the short circuit when connector gets wet by water through the thermistor lead wire. Therefore, lead wire of the indoor coil thermistor should be tied up as shown in the photo 5.	**Photo 6** 
8. Removing the Under panel (1) Remove the air intake grill. (2) Remove the beam. (3) Remove the side panel (right and left). (4) Unscrew the screws of the under panel, then remove the under panel. ※ Weight of the under panel : approx. 2kg.	**Photo 7** 

OPERATING PROCEDURE	PHOTOS
9. Removing the drain pan (1) Remove the air intake grill. (2) Remove the beam. (3) Remove the side panel (right and left). (4) Remove the under panel. Remove the screws of the right and left side drain pan. (5) Remove the insulation in centre of the drain pan, and after removing the screw, remove the drain pan. (Note) Please aware that there might be drain left in the drain pan when you remove the drain pump (option).	**Photo 8** 
10. Removing the guide vane (1) Remove the intake grill. (2) Remove the beam. (3) Remove the side panel (right and left). (4) Remove the under panel. (5) Remove the drain pan. (6) Remove the screw from the guide vane, then remove the guide vane.	**Photo 9** 
11. Removing the Auto vane (1) Remove the intake grill. (2) Remove the left side panel. (3) Remove the left side box. (4) Remove the under panel. (5) Remove the screw from the auto vane. (6) Slide the auto vane to the right side and pull the auto vane out.	**Photo 10** 

OPERATING PROCEDURE	PHOTOS
12. Removing the heat exchanger. (1) Remove the air intake grill. (2) Remove the beam. (3) Remove the side panel (right and left). (4) Disconnect the relay connector. (5) Remove the under panel. (6) Remove the drain pan. (7) Unscrew the screw of the pipe cover, and remove the pipe cover. (8) Unscrew the screw of the pipe support, and remove the pipe support. (9) Unscrew the screw of the heat exchanger, and remove the heat exchanger. Remove the heat exchanger with care. Since this is quite heavy, removing work should be done with more than 2 people. ※Weight of heat exchanger : approx. 5.3kg	**Photo 11** 

11 PARTS LIST

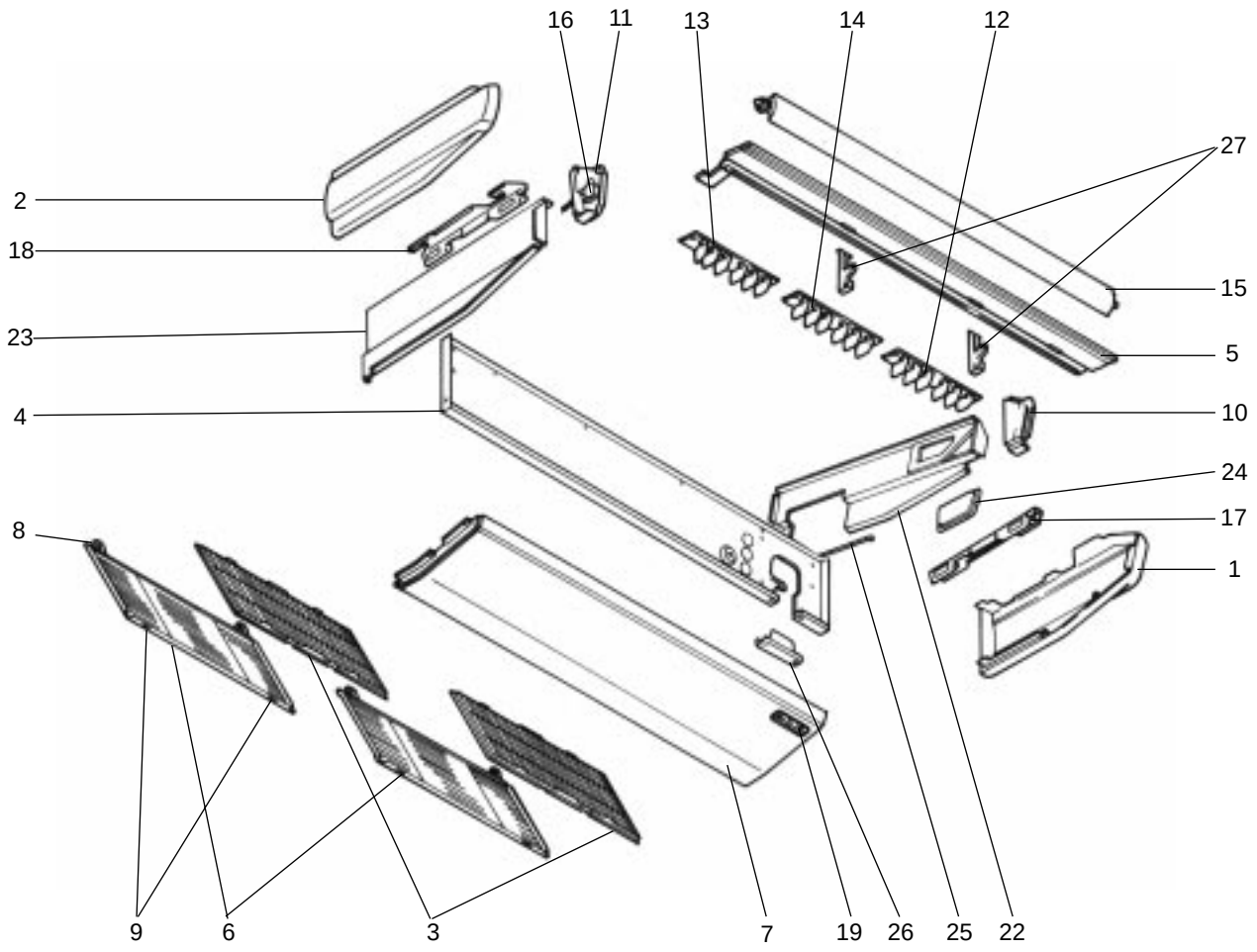
STRUCTURAL PART
PCH-2GKA-E



Part numbers that are circled are not shown in the figure

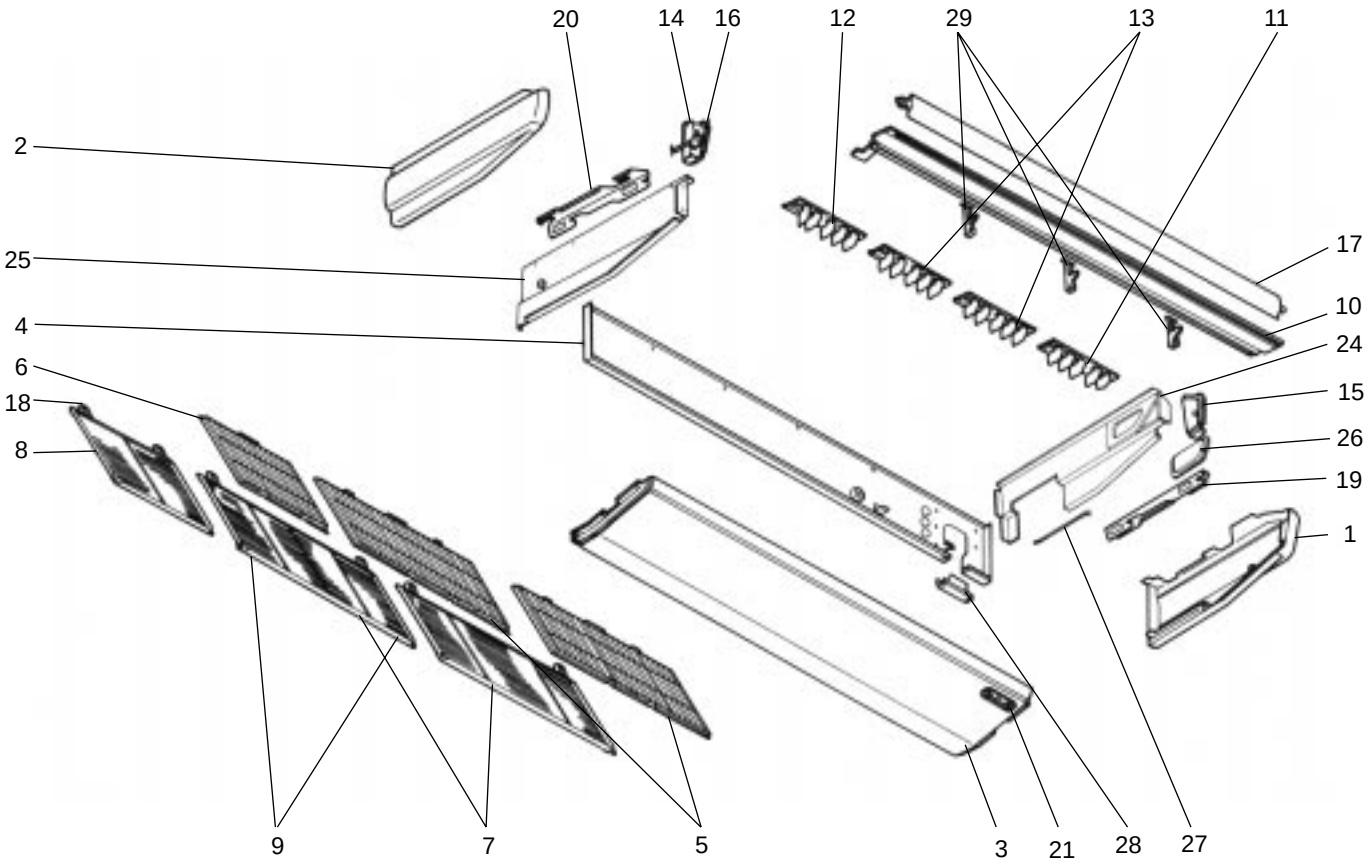
No.	Parts No.	Parts Name	Specifications	Q'ty / set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PCH-2				Unit	Amount
				GKA-E					
1	R01 17J 661	RIGHT SIDE PANEL		1					
2	R01 17J 662	LEFT SIDE PANEL		1					
3	R01 17J 669	UNDER PANEL		1					
4	R01 17J 676	REAR PANEL		1					
5	R01 A14 500	L.L. FILTER		1					
6	R01 A15 500	L.L. FILTER		1					
7	R01 17J 691	GRILLE ASSY		1					
8	R01 18J 691	GRILLE ASSY		1					
9	R01 17J 054	GRILLE CATCH		4					
10	R01 17J 651	FRONT PANEL		1					
11	R01 37J 085	GUIDE VANE ASSY-6R.		1					
12	R01 37J 086	GUIDE VANE ASSY-6L.		1					
13	R01 29J 223	VANE MOTOR		1		MV			
14	R01 17J 067	RIGHT SIDE BOX		1					
15	R01 17J 068	LEFT SIDE BOX		1					
16	R01 17J 002	AUTO VANE		1					
17	R01 17J 061	GRILLE HINGE		4					
18	R01 17J 808	RIGHT LEG		1					
19	R01 17J 809	LEFT LEG		1					
20	T7W E01 070	WIRELESS BOARD CASE		1					
(21)	R01 17J 523	JOINT SOCKET		1					
(22)	T7W E00 072	DRAIN HOSE COVER		1					
23	R01 18J 665	SIDE PLATE-R.		1					
24	R01 57N 666	SIDE PLATE-L.		1					
25	R01 17J 668	SERVICE PANEL		1					
26	–	BEAM (GA)		2	(BG17H464H08)				
27	–	REAR SUPPORT		1	(BG02H454H04)				
28	–	VANE SUPPORT		1	(BG02R321G07)				

STRUCTURAL PART
PCH-2.5GKA-E
PCH-3GKA-E
PCH-4GKSA-E



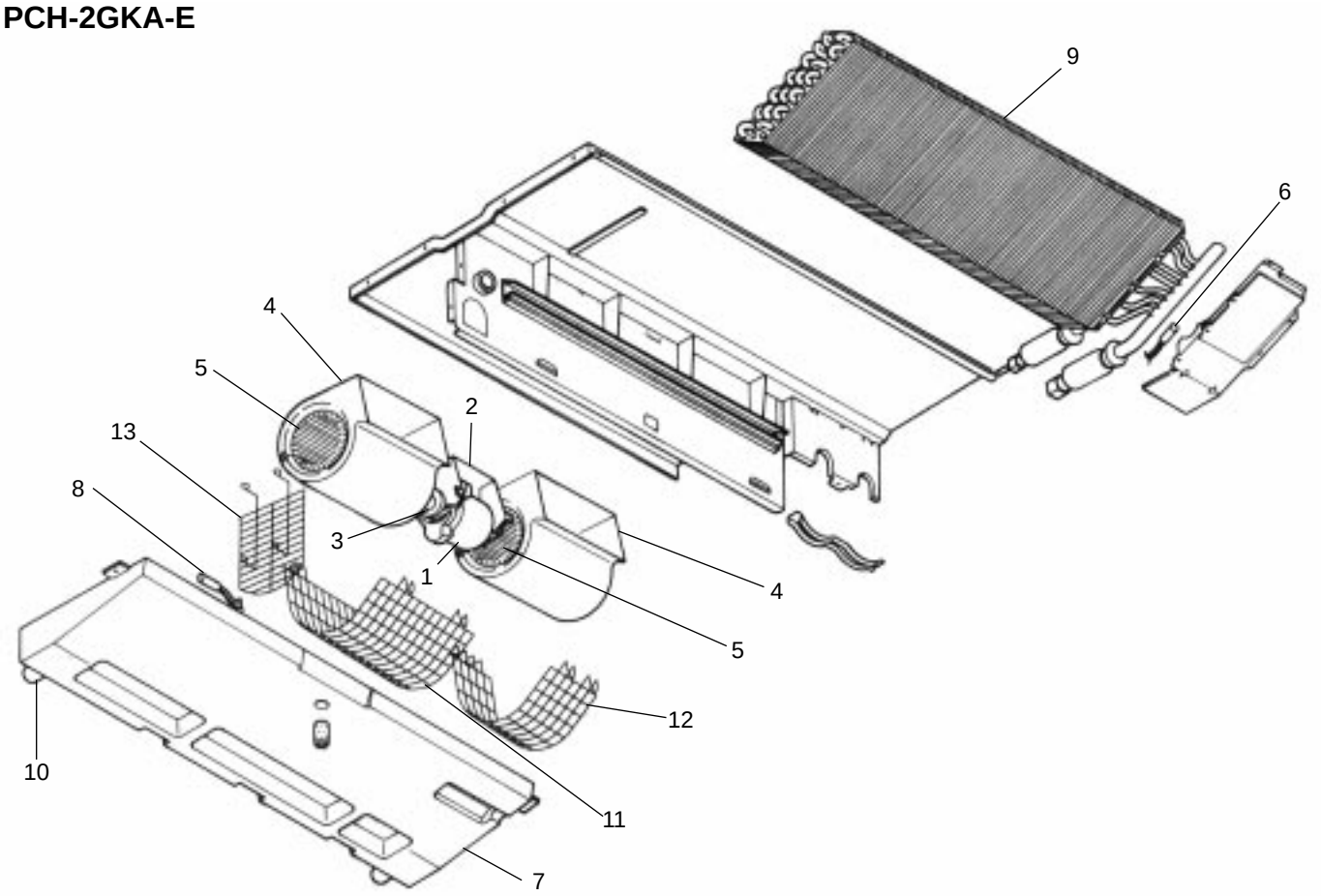
No.	Parts No.	Parts Name	Specifications	Q'ty / set		Remarks (Drawing No.)	Wiring Diagram Symbol	Recom-mended Q'ty	Price	
				PCH-2.5/3	PCH-4				Unit	Amount
				GKA-E	GKSA-E					
1	R01 17J 661	RIGHT SIDE PANEL		1						
	R01 35J 661	RIGHT SIDE PANEL			1					
2	R01 17J 662	LEFT SIDE PANEL		1						
	R01 35J 662	LEFT SIDE PANEL			1					
3	R01 A14 500	L.L. FILTER		2	2					
4	R01 29J 676	REAR PANEL		1						
	R01 35J 676	REAR PANEL			1					
5	R01 29J 651	FRONT PANEL		1						
	R01 36J 651	FRONT PANEL			1					
6	R01 17J 691	GRILLE ASSY		2	2					
7	R01 29J 669	UNDER PANEL		1	1					
8	R01 17J 061	GRILLE HINGE		4	4					
9	R01 17J 054	GRILLE CATCH		4	4					
10	R01 17J 067	RIGHT SIDE BOX		1						
	R01 35J 067	RIGHT SIDE BOX			1					
11	R01 17J 068	LEFT SIDE BOX		1						
	R01 35J 068	LEFT SIDE BOX			1					
12	R01 37J 085	GUIDE VANE ASSY-6R.		1	1					
13	R01 37J 086	GUIDE VANE ASSY-6L.		1	1					
14	R01 37J 087	GUIDE VANE ASSY-6C.		1	1					
15	R01 29J 002	AUTO VANE		1						
	R01 35J 002	AUTO VANE			1					
16	R01 29J 223	VANE MOTOR		1			MV			
	R01 35J 223	VANE MOTOR			1		MV			
17	R01 17J 808	RIGHT LEG		1	1					
18	R01 17J 809	LEFT LEG		1	1					
19	T7W E01 070	WIRELESS BOARD CASE		1	1					
⑳	R01 17J 523	JOINT SOCKET		1	1					
㉑	T7W E00 072	DRAIN HOSE COVER		1	1					
22	R01 18J 665	SIDE PLATE-R.		1						
	R01 35J 665	SIDE PLATE-R.			1					
23	R01 57N 666	SIDE PLATE-L.		1						
	R01 35J 666	SIDE PLATE-L.			1					
24	R01 17J 668	SERVICE PANEL		1						
	T7W E00 668	SERVICE PANEL			1					
25	—	BEAM(GA)		2	2	(BG17H464H08)				
26	—	REAR SUPPORT		1	1	(BG02H454H04)				
27	—	VANE SUPPORT		2		(BG02R321G07)				
	—	VANE SUPPORT			2	(BG02R805G05)				

STRUCTURAL PART
PCH-5GKSA-E
PCH-6GKSA-E



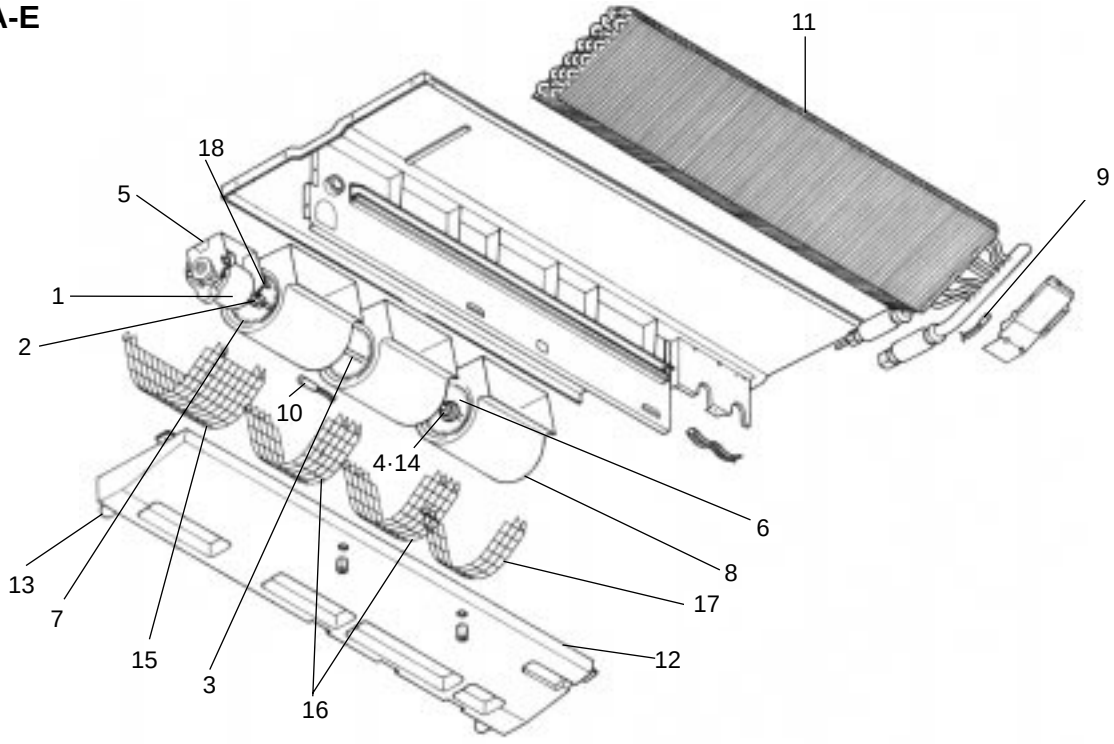
No.	Parts No.	Parts Name	Specifications	Q'ty / set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recom-mended Q'ty	Price	
				PCH-5/6				Unit	Amount
				GKSA-E					
1	R01 35J 661	RIGHT SIDE PANEL		1					
2	R01 35J 662	LEFT SIDE PANEL		1					
3	R01 41J 669	UNDER PANEL		1					
4	R01 41J 676	REAR PANEL		1					
5	R01 A14 500	L.L. FILTER		2					
6	R01 A15 500	L.L. FILTER		1					
7	R01 17J 691	GRILLE ASSY		2					
8	R01 18J 691	GRILLE ASSY		1					
9	R01 17J 054	GRILLE CATCH		6					
10	R01 41J 651	FRONT PANEL		1					
11	R01 41J 085	GUIDE VANE ASSY-5R.		1					
12	R01 42J 086	GUIDE VANE ASSY-5L.		1					
13	R01 43J 087	GUIDE VANE ASSY-5C.		2					
14	R01 35J 223	VANE MOTOR		1		MV			
15	R01 35J 067	RIGHT SIDE BOX		1					
16	R01 35J 068	LEFT SIDE BOX		1					
17	R01 41J 002	AUTO VANE		1					
18	R01 17J 061	GRILLE HINGE		6					
19	R01 17J 808	RIGHT LEG		1					
20	R01 17J 809	LEFT LEG		1					
21	T7W E01 070	WIRELESS BOARD CASE		1					
㉒	R01 17J 523	JOINT SOCKET		1					
㉓	T7W E00 072	DRAIN HOSE COVER		1					
24	R01 35J 665	SIDE PLATE-R.		1					
25	R01 35J 666	SIDE PLATE-L.		1					
26	T7W E00 668	SERVICE PANEL		1					
27	—	BEAM(GA)		3	(BG17H464H08)				
28	—	REAR SUPPORT		1	(BG02H454H04)				
29	—	VANE SUPPORT		3	(BG02R805G05)				

FAN PARTS
PCH-2GKA-E



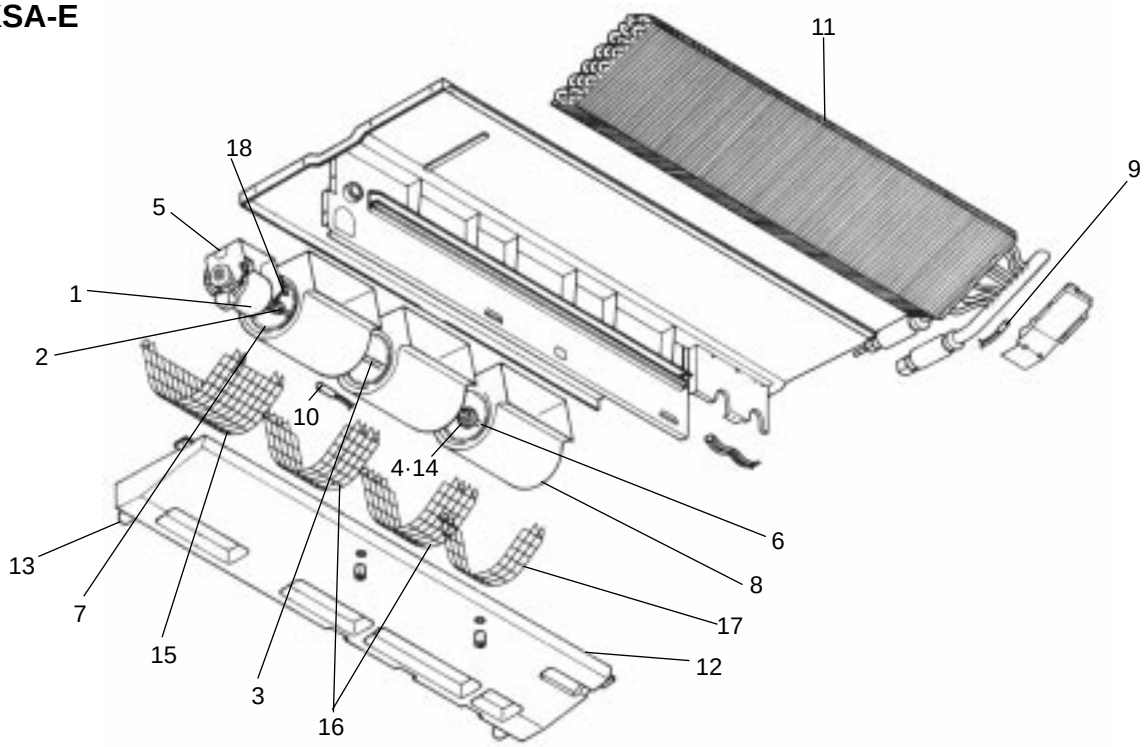
No.	Parts No.	Parts Name	Specifications	Q'ty / set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PCH-2 / GKA-E				Unit	Amount
1	T7W 23J 762	FAN MOTOR	DO9B4P54MS	1		MF			
2	R01 17J 130	MOTOR LEG		1					
3	R01 43E 126	PIECE (MOTOR)		1					
4	T7W B06 110	CASING		2					
5	R01 17J 114	SIROCCO FAN		2					
6	R01 17J 202	INDOOR COIL THERMISTOR		1		RT2			
7	R01 17J 529	DRAIN PAN ASSY		1					
8	R01 18J 202	ROOM TEMPERATURE THERMISTOR		1		RT1			
9	R01 26J 480	HEAT EXCHANGER		1					
10	R01 17J 524	DRAIN PLUG		1					
11	T7W 17J 675	FAN GUARD		1					
12	T7W 18J 675	FAN GUARD		1					
13	T7J 19J 675	FAN GUARD		1					

FAN PARTS
PCH-2.5GKA-E
PCH-3GKA-E



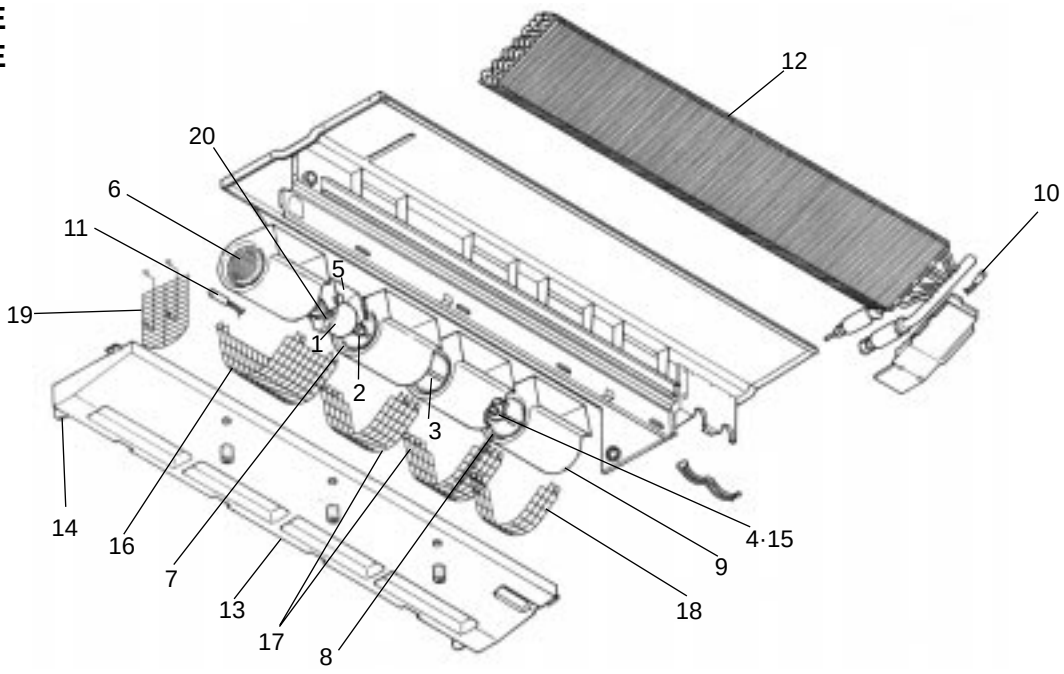
No.	Parts No.	Parts Name	Specifications	Q'ty / set		Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PCH-2.5 GKA-E	PCH-3 GKA-E				Unit	Amount
1	T7W 30J 762	FAN MOTOR	DC9C4P70MS	1	1		MF			
2	R01 29J 116	FAN JOINT		1	1					
3	R01 29J 100	SHAFT (FAN)		1	1					
4	R01 705 103	SLEEVE BEARING		1	1					
5	R01 29J 130	MOTOR LEG		1	1					
6	R01 29J 114	SIROCCO FAN		2	2					
7	R01 33J 114	SIROCCO FAN		1	1					
8	T7W B06 110	CASING		3	3					
9	R01 17J 202	INDOOR COIL THERMISTOR		1	1		RT2			
10	R01 18J 202	ROOM TEMPERATURE THERMISTOR		1	1		RT1			
11	R01 29J 480	HEAT EXCHANGER		1						
	R01 33J 480	HEAT EXCHANGER			1					
12	R01 29J 529	DRAIN PAN ASSY		1	1					
13	R01 17J 524	DRAIN PLUG		1	1					
14	R01 29J 145	BEARING SUPPORT		1	1					
15	T7W 20J 675	FAN GUARD		1	1					
16	T7W 21J 675	FAN GUARD		2	2					
17	T7W 18J 675	FAN GUARD		1	1					
18	R01 43E 126	PIECE (MOTOR)		1	1					

FAN PARTS
PCH-4GKSA-E



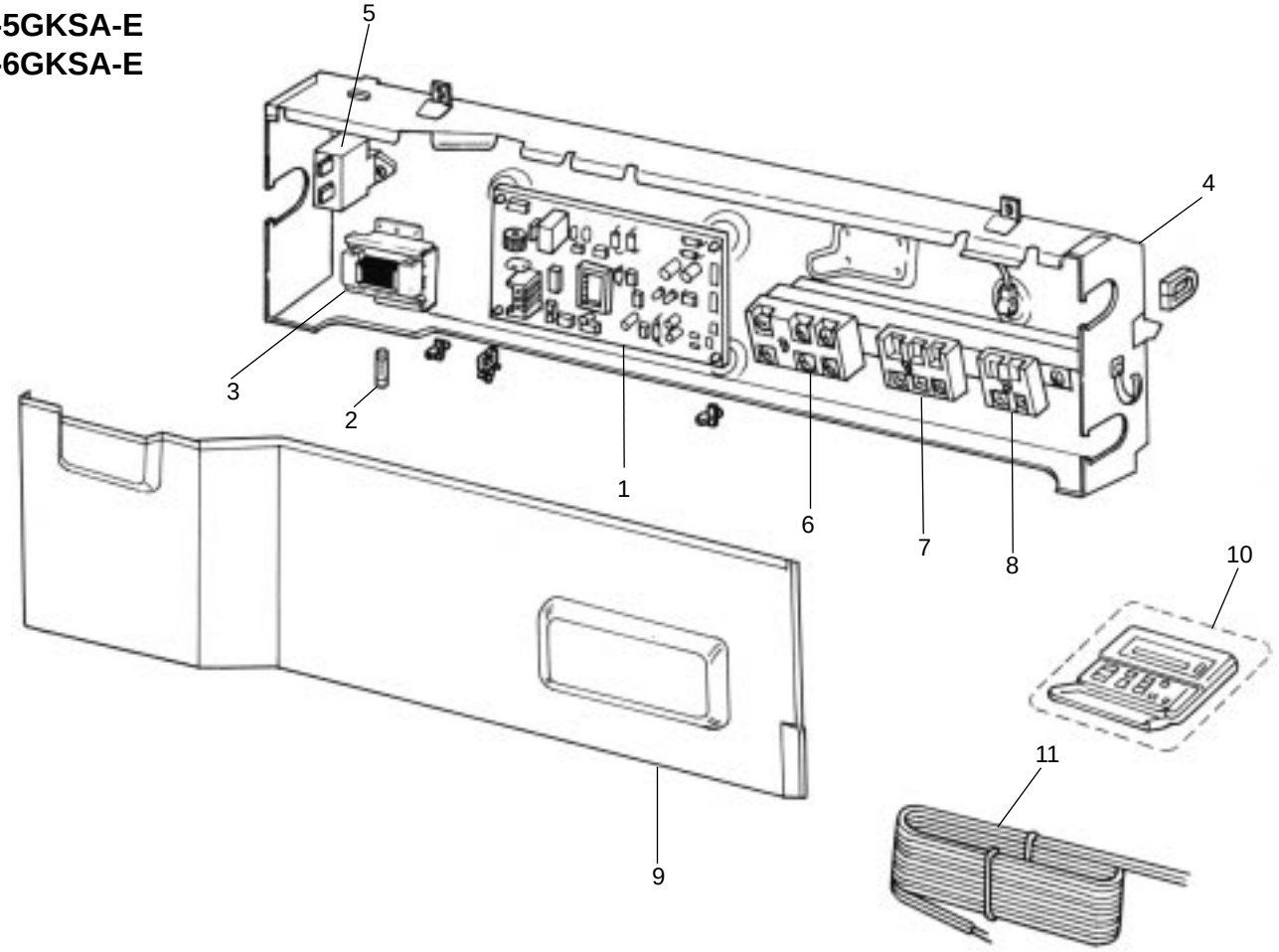
No.	Parts No.	Parts Name	Specifications	Q'ty / set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PCH-4 GKSA-E				Unit	Amount
1	T7W 39J 762	FAN MOTOR	D10B4P90MS	1		MF			
2	R01 29J 116	FAN JOINT		1					
3	R01 29J 100	SHAFT		1					
4	R01 705 103	SLEEVE BEARING		1					
5	R01 35J 130	MOTOR LEG		1					
6	R01 35J 114	SIROCCO FAN		2					
7	R01 39J 114	SIROCCO FAN		1					
8	T7W B07 110	CASING		3					
9	R01 17J 202	INDOOR COIL THERMISTOR		1		RT2			
10	R01 18J 202	ROOM TEMPERATURE THERMISTOR		1		RT1			
11	R01 37J 480	HEAT EXCHANGER		1					
12	R01 35J 529	DRAIN PAN ASSY		1					
13	R01 17J 524	DRAIN PLUG		1					
14	R01 35J 145	BEARING SUPPORT		1					
15	T7W 22J 675	FAN GUARD		1					
16	T7W 23J 675	FAN GUARD		2					
17	T7W 24J 675	FAN GUARD		1					
18	R01 43E 126	PIECE (MOTOR)		1					

FAN PARTS
PCH-5GKSA-E
PCH-6GKSA-E



No.	Parts No.	Parts Name	Specifications	Q'ty / set		Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PCH-5 GKSA-E	PCH-6 GKSA-E				Unit	Amount
1	T7W 43J 762	FAN MOTOR	D10B4P150MS	1	1		MF			
2	R01 29J 116	FAN JOINT		1	1					
3	R01 29J 100	SHAFT		1	1					
4	R01 705 103	SLEEVE BEARING		1	1					
5	R01 41J 130	MOTOR LEG		1	1					
6	R01 41J 114	SIROCCO FAN		1	1					
7	R01 39J 114	SIROCCO FAN		1	1					
8	R01 35J 114	SIROCCO FAN		2	2					
9	T7W B07 110	CASING		4	4					
10	R01 17J 202	INDOOR COIL THERMISTOR		1	1		RT2			
11	R01 18J 202	ROOM TEMPERATURE THERMISTOR		1	1		RT1			
12	R01 41J 480	HEAT EXCHANGER		1						
	R01 45J 480	HEAT EXCHANGER			1					
13	R01 41J 529	DRAIN PAN ASSY		1	1					
14	R01 17J 524	DRAIN PLUG		1	1					
15	R01 35J 145	BEARING SUPPORT		1	1					
16	T7W 25J 675	FAN GUARD		1	1					
17	T7W 23J 675	FAN GUARD		2	2					
18	T7W 24J 675	FAN GUARD		1	1					
19	T7W 26J 675	FAN GUARD		1	1					
20	R01 43E 126	PIECE (MOTOR)		1	1					

ELECTRICAL PARTS
PCH-2GKA-E
PCH-2.5GKA-E
PCH-3GKA-E
PCH-4GKSA-E
PCH-5GKSA-E
PCH-6GKSA-E



No.	Parts No.	Parts Name	Specifications	Q'ty / set				Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				2	2.5/3	4	5/6				Unit	Amount
				GKA-E	GKA-E	GKSA-E	GKSA-E					
1	T7W 71J 310	INDOOR CONTROLLER BOARD		1	1	1	1		I.B			
2	T7W 520 239	FUSE	250V 6.3A	2	2	2	2		F1,2			
3	T7W 23J 260	TRANSFORMER		1	1	1	1		T			
4	—	CONTROL BOX		1	1	1	1	(BG00N015G22)				
5	R01 30L 255	FAN MOTOR CAPACITOR	3MF. 440V	1					C			
	T7W 39J 255	FAN MOTOR CAPACITOR	4MF. 440V		1	1			C			
	T7W 43J 255	FAN MOTOR CAPACITOR	6MF. 440V				1		C			
6	T7W A14 716	TERMINAL BLOCK	3P (L,N,⏚)	1	1	1	1		TB2			
7	T7W 517 716	TERMINAL BLOCK	3P (1,2,3)	1	1	1	1		TB4			
8	T7W 512 716	TERMINAL BLOCK	2P (1,2)	1	1	1	1		TB5			
9	—	BOX COVER		1				(BG02A804G12)				
	—	BOX COVER			1		1	(BG02A804G13)				
	—	BOX COVER				1		(BG02A804G14)				
10	T7W 14K 200	REMOTE CONTROLLER BOARD		1	1	1	1		R.B			
11	R01 08K 305	REMOTE CONTROLLER CABLE	10m	1	1	1	1					

12 OPTIONAL PARTS

1. REFRIGERANT PIPES

Service Ref. : PCH-2GKA-E / PCH-2.5GKA-E / PCH-3GKA-E

Part No.	PAC-05FFS-E	PAC-07FFS-E	PAC-10FFS-E	PAC-15FFS-E
Pipe length	5m	7m	10m	15m
Pipe size O.D.	Liquid : ϕ9.52 Gas : ϕ15.88			
Connection method	Indoor unit : Flared Outdoor unit : Flared			

Service Ref. : PCH-4GKSA-E / PCH-5GKSA-E / PCH-6GKSA-E

Part No.	PAC-SC51PI-E	PAC-SC52PI-E	PAC-SC53PI-E	PAC-SC54PI-E
Pipe length	5m	7m	10m	15m
Pipe size O.D.	Liquid : ϕ9.52 Gas : ϕ19.05			
Connection method	Indoor unit : Flared Outdoor unit : Flared			

Note 1. How to connect refrigerant pipes.
Factory supplied optional refrigerant pipings contain refrigerant at the above atmospheric pressures. As long as connection takes no more than 5 minutes, no air will enter, and there will be no need for air purging.
Remove the blind caps and make the connections within 5 minutes. After the connections for the indoor and outdoor units are made, open the stop valve on the outdoor unit to allow refrigerant gas to flow.
If piping length exceeds 5m, an additional charge of refrigerant in needed.

Note 2. The following main parts are contained in the optional refrigerant piping kit.
Heat insulating cover, vinyl tapes, nipples, sleeve and flange (for wall hole).

2. TIMER

Part No.	PAC-SC32PTA
Model name	Program timer (when set back function)

3. CENTRALIZED REMOTE CONTROLLER

Allows individual or combined control of up to 16 units. When using this controller, a program timer adapter (PAC-825AD) is also needed.

Part No.	PAC-805RC

4. PROGRAM TIMER ADAPTER

This part is needed when a centralized remote controller (PAC-805RC) is used.

Part No.	PAC-825AD

5. TIMER ADAPTER

This adapter is needed for system control and for operation via external contacts.

Part No.	PAC-SA89TA-E

6. MULTIPLE REMOTE CONTROLLER ADAPTER

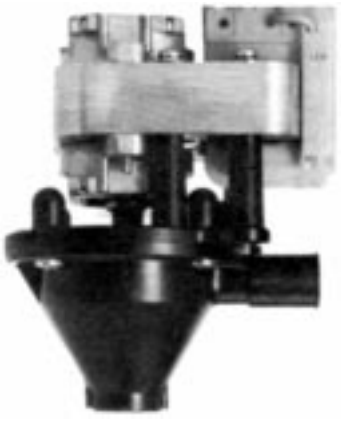
This adapter is needed for remote indication (operation/check).

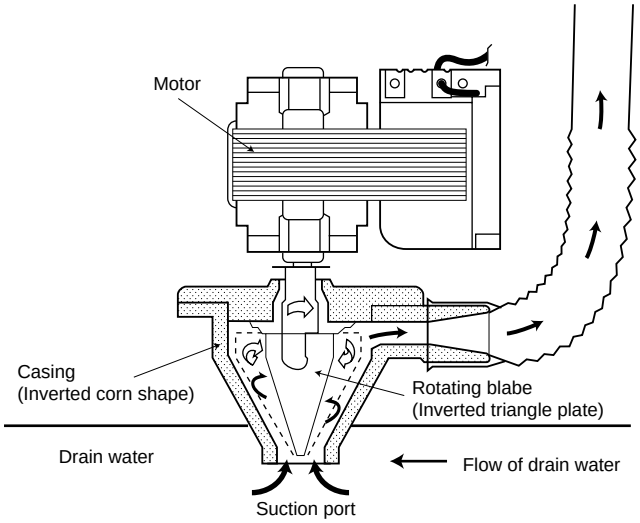
Part No.	PAC-SA88HA-E

Optional parts connection is described in the service technical guide No.OCT01.

7.DRAIN PUMP

Part No.	PAC-SE85DM-E	PAC-SE86DM-E
Applied Service Ref.	PCH-2/2.5/3GKA-E	PCH-4/5/6GKSA-E





8.HIGH PERFORMANCE FILTER

Part No.	PAC-SE80KF-E	PAC-SE81KF-E	PAC-SE82KF-E
Applicable Service Ref.	PCH-2GKA-E	PCH-2.5/3/4GK(S)A-E	PCH-5/6GKSA-E

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE MITSUBISHI DENKI BLDG.MARUNOUCHI TOKYO100-8310 TELEX J24532 CABLE MELCO TOKYO

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